A Clinical Lecture

UPON

THE MODERN TREATMENT OF UTERINE FIBROIDS, WITH TABLE OF 68 CONSECUTIVE CASES OF HYSTERECTOMY.

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GENTLEMEN,—We have in the Prudhoe Ward at the present time two cases of uterine fibroids. One patient is convalescing after the operation of abdominal hysterectomy in which I removed this tumour (Fig. 1); the other patient is in such an unhealthy cachectic condition that we are endeavouring to improve her general health before subjecting her to operation. I propose to-day to discuss the proper treatment of uterine fibroids and also to make some remarks generally on these tumours.

THE FREQUENCY AND DANGERS OF UTERINE FIBROIDS.

Everyone is agreed as to uterine fibroids being often met with; indeed, it has been calculated that from 20 per cent. to 40 per cent. of women over 35 years of age are the possessors of uterine fibroids. They are rare before the age of 30 years, or, at all events, they do not often give rise to symptoms calling for treatment—in two cases only of my 68 were the patients under 30 years of age. But whilst there is unanimity of opinion as to their frequency it is far otherwise as regards the risks to life. On the one hand, Dr. F. H. Champneys,[1] basing his statistics on the post-mortem notes of St. Bartholomew's Hospital, says that the mortality apart from operation is three in 2,160,112 (or 0·000138 per cent.), and he adds: "It seems undeniable that deaths from fibroids apart from operation are excessively rare." On the other hand, Mr. Stanmore Bishop,[2] in an article on the Risks of Unoperated Uterine Fibro-myomata, quotes 18 cases reported by various medical men in which death was directly due to the condition. It must always be remembered that the presence of uterine fibroids has often a very deleterious effect on the general health, and this, too, when the tumour has not caused hæmorrhage. The patient in Prudhoe Ward is an example of this. She is pale and cachectic-looking; her tissues are fatty and I have grave fears that her heart is fatty also. This fatty condition of the heart is one of the great dangers after hysterectomy. I shall lay stress upon this later. At the Berlin Congress of Gynæcologists in 1899 Gottschalk insisted on the degeneration of the myocardium frequently associated with fibro-myomata and Freund said that diseases of the heart and blood-vessels are very commonly associated with them and that they are on that account far less innocent than is generally supposed. Kelly says that "hyaline degeneration of the heart muscle and arterial sclerosis are sometimes seen in old cases." Hoffmeier speaks of the frequency of heart disease in cases of fibro-myomata; he collected 18 cases in which sudden death occurred from heart failure—three of fatty disease and 15 of brown atrophy. You must ever bear in mind, gentlemen, the grave risks which a woman who has uterine fibroids runs in the event of her becoming pregnant. Abortion is liable to occur and the prognosis is grave. Lefour collected 39 cases of abortion with 14 deaths—a mortality of 36 per cent. Parturition in cases of fibroid tumour is usually a matter of difficulty, often of grave danger. Of 147 cases collected by Susserott[3] the forceps were required in 20, with a loss of eight mothers and 13 children. In 21 cases the placenta required manual removal and of these 13 women died. Collectively the maternal mortality was 53 per cent. and the infantile mortality was 66 per cent. Tarnier out of six cases delivered by forceps lost four mothers and four children, and five women with fibroids died before delivery. Some cases are not capable of delivery by the natural route. Sanger collected 43 cases where Cæsarean section became necessary, and in these the maternal mortality was 83·7 per cent., and Pozzi collected 28 cases with a maternal mortality of 86 per cent. Johnston estimates that during pregnancy or labour one-third of the mothers and more than half of the children die, and he recommends celibacy where the tumour cannot be removed. Taking all these facts into consideration and forming an unbiased opinion I ask, Is anyone justified in saying that "deaths from fibroids apart from operation are excessively rare"?

[1] THE LANCET, Jan 20th, 1900, p. 147.
[2] Medical Press and Circular, Feb. 14th, 1900.
[3] Jessett, British Gynæcological Journal, August, 1898.

THE SYMPTOMS OF UTERINE FIBROIDS.

Hæmorrhage.—The most frequent symptom is hæmorrhage. This is especially severe in the submucous fibroids and at first, at all events, it takes the form of menorrhagia, while later there may be excessive loss between the periods (metrorrhagia). The endometrium in cases of fibroids usually becomes greatly hypertrophied and vascular and not infrequently polypoid in character; this latter condition accounts for the irregular losses of blood. The amount of the loss bears no relation to the size of the tumour; for instance, the patient from whom this uterus was removed (Fig. 2) was excessively blanched from hæmorrhage.

Pressure symptoms.—These are especially noticeable when the tumour (or part of it) occupies the pouch of Douglas; there is either pain and difficulty in micturition or complete retention. Again, obstinate constipation with hæmorrhoids, or even total obstruction of the bowels calling for immediate operation, may be noticed. Various nerve pains due to pressure are complained of, and if the tumour be very large it causes dyspeptic symptoms and also palpitation of the heart and faintness.

Besides the pains due to pressure the tumour itself is often painful, and especially is this the case during the periods. It is due to spasmodic contraction of the uterus and is sometimes so severe that the patient cannot bear the uterus to be palpated. In some cases, however, when the pain is very severe, it is probably due to localised peritonitis, as all who are in the habit of operating on uterine fibroids know how frequently adhesions of the omentum and intestines to the tumour are met with and how seriously they complicate the operation. It is probable that in at least 50 per cent. of the cases of fibroids there is disease of the ovaries and tubes, on one or both sides, met with. The tubes may contain pus and the ovaries be the subjects of ovaritis, thus, besides giving rise to severe abdominal pains, seriously or even fatally affecting the result of an operation.

INDICATIONS FOR OPERATION.

It must always be remembered that all uterine fibroids do not require interference. To tell a patient she should have her uterus removed just because she possesses a fibroid (of the existence of which she was possibly unaware and which is causing no symptoms) is, in my opinion, absolutely unjustifiable. We cannot argue the case in the same way as if it were an ovarian tumour, as this latter tumour usually destroys life in a few years if left alone, whereas many fibroids never destroy life and may get smaller after the menopause sets in. Nor do I think it justifiable to recommend removal of a fibroid without symptoms in order to prevent the occurrence later of increased growth with symptoms and internal complications (such as adhesions) which would necessarily considerably increase the risk of operation. This I assert notwithstanding that I feel confident that the danger to life from an uncomplicated abdominal hysterectomy is not more than 2 per cent. On the other hand, it would, in my opinion, be equally wrong to argue that because in only a small proportion of cases of uterine fibroids not operated upon death is directly due to the tumour most cases of fibroid should be left alone. Diseases of the uterus and its appendages should be looked at in precisely the same light as diseases of any other organ of the body, whether male or female. Personally, I never perform hysterectomy unless there is some well-marked indication for the operation and when my conscience tells me that my treatment would be the same if the patient were my nearest and dearest relative. I suppose most medical men have patients with fibroid tumours which are giving no trouble and which call for no interference. I myself have at least seven such whom I see occasionally to note whether there be any change or not. It is necessary in determining the question of operation or no operation to

take into consideration the social position of the patient. For instance, a woman whose status is such that she can keep in the recumbent position whilst hæmorrhage is going on may possibly, with the help of drugs, avoid the necessity of operation, whereas a poor woman who has to attend to her household duties or is the bread-winner of the family cannot possibly lie up several days each month, and precisely the same holds good with regard to weight and pressure symptoms. The following conditions, then, call for interference: 1. Menorrhagia or metrorrhagia. 2. Marked pressure symptoms. 3. Increasing size of the tumour. This is especially called for if the increase starts near or after the menopause, as then the tumour is taking on a cystic condition and requires removal without delay. Having determined in any given case that treatment is necessary let us now consider the different methods that may be adopted.

ADMINISTRATION OF DRUGS.

If a woman consults you for moderate menorrhagia due to fibroids you may try the effect of a mixture containing half a drachm of liquid extract of ergot and half a drachm of fluid extract of hydrastis three times a day. The patient should maintain the recumbent position during the periods and you might inject three grains of ergotin into the glutæus muscle once or twice daily whilst the loss continues. A point to remember is that probably the patient will say that the loss is worse in bed (possibly due to the warmth), so I always advise the use of a couch during the daytime.

ELECTRICITY.

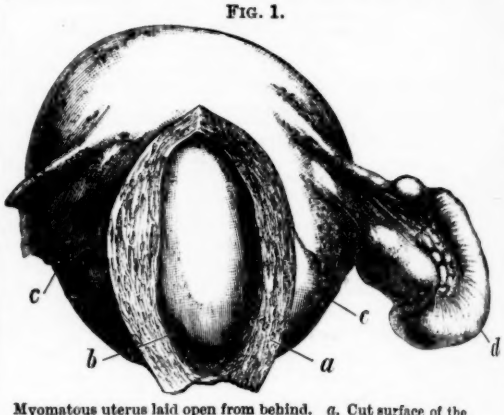
The intra-uterine application of a continuous current varying from 15 to 250 milliampères was some years back ushered in with a flourish of trumpets as a remedy which would do away with the necessity for operations on fibroids; but, alas, it has not stood the test of experience, and almost all observers who have tried it, whilst admitting that by its cauterising action on the endometrium it may give temporary relief, agree that it very rarely cures nor does it cause the fibroid to dwindle away. According to Vineburg, who collected cases from Keith, Engelmann, Gautier, and others particularly skilled in the treatment, out of 372 cases treated nine were cured and five died. The treatment of fibroids by galvano-puncture is unsurgical and dangerous and should never be attempted.

SURGICAL MEASURES.

Supposing, however, that a few months' trial of ergot and rest has not the desired effect on the hæmorrhage. The next treatment is

Curettage of the endometrium.—The cervical canal must be thoroughly dilated with the strictest aseptic precautions until it will admit the finger. The uterine cavity is then explored for polypi or small submucous myomata, and if neither be found the whole endometrium is thoroughly scraped away, whilst at the same time the uterine cavity is washed out with a 1 in 2000 hot solution of perchloride of mercury by means of a sharp flushing curette and afterwards the vagina is plugged with iodoform gauze. This curettage not infrequently gives great, if only temporary, relief. At the present moment I have under my care a patient who consulted me for an almost continuous loss of blood, which had been going on for nearly 18 months, during which time the only treatment adopted was drugs and rest. I found a fibroid uterus reaching half-way up to the umbilicus and on dilating the cervix and passing my forefinger in it met a precisely similar condition to that shown in Fig. 1. Having scraped away an exceedingly hypertrophied and vascular endometrium the result has been that all hæmorrhage ceased forthwith and the patient, to her intense delight, has had two perfectly normal periods. It remains to be seen how long before it will be necessary to adopt further measures. It is a wise procedure always to explore the uterine cavity before recommending hysterectomy or other severe operations for uterine hæmorrhage, as sometimes polypi or small submucous myomata may be found and readily removed with complete relief, even though a large tumour still remains in the uterine wall. About 16 years ago I had two cases in my ward at the same time which taught me a lesson. Both patients were suffering from excessive menorrhagia and each had a fibroid uterus reaching half-way up to the umbilicus. I removed the ovaries and tubes in each case with a view of bringing on an artificial menopause and the patients left the hospital. In neither case did the hæmorrhage cease and the women were re-admitted. Before performing hysterectomy I decided to explore the uterine cavity and on doing so found in one patient a fibroid polypus of the size of a small pear. This was easily removed and all hæmorrhage ceased from that time. On exploring the uterine cavity of the other patient there was nothing whatever abnormal found,

FIG. 1.



Myomatous uterus laid open from behind. *a*, Cut surface of the posterior wall. *b*, Myoma occupying the whole of the anterior wall and pushing inwards into the uterine cavity. *c*, Cut peritoneal edges from which flaps were reflected down. *d*, Pyosalpinx of the left Fallopian tube. One-third natural size.

so this was an example of failure of removal of the appendages to stop hæmorrhage, and hysterectomy had to be performed.

We must now proceed to consider the graver surgical procedures that may be adopted in cases of uterine fibroids where the simple measures already mentioned are either inapplicable (as, for instance, when the tumours are causing pressure symptoms) or ineffectual.

Removal of the ovaries and tubes.—This operation, which was frequently practised some years back, has now rightly fallen into desuetude, because not only was it found sometimes impossible to remove the appendages owing to their being firmly adherent to the uterus, but the mortality was not insignificant and (most important of all) the operation sometimes failed either to stop the growth of the tumour or to check the hæmorrhage, as in the case which I have just mentioned to you.

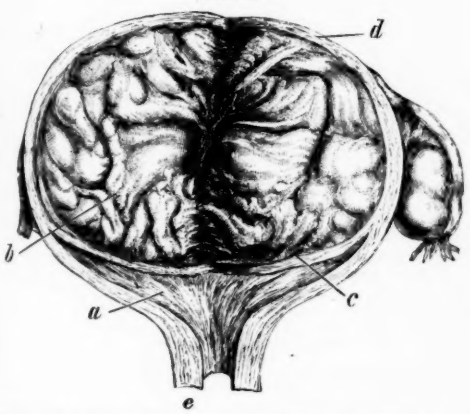
Vaginal enucleation or morcellement.—Here the os uteri is well dilated so as to admit two fingers and then by means of forceps and scissors even large submucous myomata have been cut away piecemeal and the uterine cavity stuffed with iodoform gauze to prevent hæmorrhage. Now, although this operation has some advocates at the present day it is to my mind a most unsurgical and dangerous method of treating submucous fibroids, unless these be quite small, and in process of becoming polypoid. Just imagine, for instance, attempting to enucleate the tumours in these cases (Fig. 1 and Fig. 2). It might have been possible to remove the growth in Fig. 2, but notice how thin the uterine wall is over part of the mass and how very likely the operator would be to penetrate the peritoneal cavity. Quite recently I was consulted by a patient for severe losses of blood at irregular times. On examination a fibroid of the size of a large orange was detected in the posterior uterine wall, and on dilating the cervical canal I found a submucous myoma of the size of an unshelled walnut projecting into the uterine cavity (but not polypoid); after breaking down the capsule with my finger-nail I was able to twist out the fibroid by means of a volsellum forceps and with complete relief to the patient's symptoms. At the present moment I have a very interesting case under my care. A woman, aged 42 years, was admitted for repeated and excessive losses of blood. She is very emaciated and quite blanched from hæmorrhage. On examination the uterus felt enlarged to the size of a small cocoa-nut; the os uteri was dilated sufficiently to admit the finger-tip and a red mass could be seen and felt at the os and apparently involving the anterior lip of the cervix. Examination with the finger caused free bleeding, so that the growth was feared to be malignant. Under anæsthesia,

however, and after dividing the cervix I found a submucous fibroid of the size of a large orange embedded in the posterior uterine wall but the greater portion of it projecting into the uterine cavity, to the walls of which it was universally adherent. After breaking down the adhesions I cut the mass away piecemeal, then twisted the part in the uterine wall out of its bed, leaving a cavity of the size of a Tangerine orange. The uterine cavity was stuffed with iodoform gauze and the patient is doing well. These two cases illustrate not only the kind of case in which vaginal enucleation is preferable to hysterectomy, but also the value of exploring the uterine cavity. Enucleation, I feel confident, has in the vast majority of cases a far higher mortality than hysterectomy and no compensating advantages. It may be said that it saves the uterus, but surely this is a disadvantage and source of possible future danger, for not only is the uterine wall unduly thin after enucleation but it must be remembered that in cases of uterine fibroids the uterine muscle itself is in a state of degeneration. There is small-celled infiltration in and around both the muscular fibres and the vessels, so that one could not but contemplate with dread the possibility of a woman becoming pregnant who had had a myoma enucleated from her uterus. Apart from the inherent difficulties of enucleation death may take place from sepsis, peritonitis, or hæmorrhage. Cases have occurred where it has been necessary to perform hysterectomy a few hours after enucleation in order to stop hæmorrhage.

Myomectomy is indicated where the tumour is sub-peritoneal and attached to the uterus by a pedicle. The pedicle is transfixed and tied with stout silk and then a wedge-shaped piece is cut out of the raw surface of the stump and the flaps are brought accurately together by a continuous fine silk suture. Martin of Berlin opens the abdomen and then makes an incision over the fibroid and shells it out and carefully sutures the wall together so as to prevent bleeding. This, however, is an operation, in my opinion, not so safe as hysterectomy and my remarks just made as to leaving a damaged uterus after enucleation equally apply here.

Hysterectomy.—Lastly we come to the consideration of the different operations by which the whole or greater part of the uterus is removed. These operations may be classified as follows: (A) Vaginal hysterectomy; and (B) abdominal hysterectomy, (1) total (pan-hysterectomy), and (2) partial (*a*) extra-peritoneal, and (*b*) intra-peritoneal. I shall make

FIG. 2.



Uterus with interstitial and submucous myoma of the size of a fist. *a*, Uterine cavity. *b*, Myoma laid open from behind. *c*, Capsule of tumour. *d*, Uterine wall. *e*, Cut edge of cervix. One-third natural size.

but few remarks about any of these except as regards the intra-peritoneal variety of abdominal hysterectomy, as I am firmly convinced that that is the best operation of all. Where the uterine fibroid is no bigger than a man's fist it is recommended by some to remove the uterus per vaginam just the same as for cancer of that organ, but as the mortality from uncomplicated intra-peritoneal hysterectomy is not, in my opinion, more than 1 per cent. or 2 per cent., this operation is preferable in all cases to vaginal hysterectomy, not only because the risk is less but also because the operator can better deal with any co-existing disease of the ovaries or tubes. Some operators advise removing the whole uterus through the abdomen (pan-hysterectomy) in preference to leaving a small stump consisting of a bit of the cervix, but I fail to see any advantage (rather the reverse) in opening the vaginal canal which one cannot feel positive is in an aseptic state. Of course, where the fibroid involves the cervix and dips into the vagina (as in a case reported by me in THE LANCET [4]) nothing but total abdominal hysterectomy is possible.

With regard to extra-peritoneal hysterectomy in which the stump of the uterus is clamped by a serre-nœud brought outside the abdomen and fixed at the lower extremity of the external incision it is only necessary to say that this method is—or ought to be—now a relic of barbarism, just as much as the extra-peritoneal treatment of the pedicle of an ovarian tumour, and any surgeon who practises it fails in his duty to his patients by not keeping abreast of the advance of surgical science.

Lastly, there is intra-peritoneal hysterectomy and I will briefly give you the details of this. The abdomen is opened by an incision extending from the pubes to the umbilicus (or further, if necessary), a large flat sponge is passed in to protect the intestines from injury and to absorb any blood, the uterus is drawn outside the abdominal cavity, and part of the sponge is pressed well down into the pelvis. As it is important to leave the ovary and tube on one side at least, the appendages are examined and if either side appears unhealthy that is removed. The broad ligament is transfixed by a pedicle needle armed with a double silk ligature and the ligament is tied in two places and divided between, leaving the ovary attached to the outer side of the broad ligament, if healthy (or to the uterus if the reverse). Next, by separating with the finger the two layers of cut peritoneum at the side of the uterus one can usually get right down to the uterine vessels lying in loose cellular tissue by the side of the cervix. By means of a small semicircular sharp needle the vessels are surrounded with silk, and when this is tied the ovarian and uterine vessels will have been secured on one side. By a similar procedure on the opposite side all the circulation is arrested in the tumour and the next step can be taken without any loss of blood to the patient—and this is very important, owing to her usually exsanguined condition. By running a scalpel across the uterus, back and front, on a level with the cut stumps of the broad ligaments, anterior and posterior peritoneal flaps are mapped out and these are dissected down to a level with the ligatures round the uterine vessels. Care must be taken not to buttonhole the posterior flap, which strips down with some difficulty. The cervix uteri is now cut across just above the ligatures on the uterine vessels and the tumour is removed. If the vessels have been properly secured the stump will be bloodless, but if there be oozing it may be necessary to re-tie them on one or both sides. The next step is an important one, as it consists in completely shutting off the cut stump from the peritoneal cavity by bringing the two flaps of peritoneum together by a continuous Lembert suture commencing at the ligatured broad ligament on one side and ending at the opposite side. The flat sponge is now removed from the abdominal cavity and the abdominal wound is sewn up in three layers: (1) continuous fine silk for the peritoneum; (2) rather thicker continuous silk for the cut edges of the rectal sheaths; and (3) ditto for the skin. The entire operation is often performed without the loss of an ounce of blood.

Since my early cases of this operation there are a few improvements which I have adopted. The first is to leave the ovary and tube on one side if possible. By doing so the patient's convalescence is much easier; she is spared all those disagreeable symptoms attaching to the onset of the menopause, besides which her sexual feelings are the same as before the operation. Of course in some instances both ovaries and tubes are diseased and then there is no alternative but to remove them. The next improvement is, whenever possible, to tie the uterine vessels as well as the ovarian before cutting the peritoneal flaps, as it saves the patient the loss of some blood. When, however, the uterus is very much expanded at its lower end by the growth (and especially when this extends into one or both broad ligaments), it will not be possible to get at the uterine arteries until the flaps are reflected down. Formerly I used to cut out a wedge-shaped piece of the stump and sew the flaps together by a

[4] THE LANCET, March 3rd, 1900, p. 613.

68 CONSECUTIVE CASES OF ABDOMINAL HYSTERECTOMY FOR UTERINE FIBROIDS.

No	Age.	Date of operation.	Where performed.	Nature of tumour.	Indications for operation.	Result.	Remarks.
1	34	1896. May 1st.	Chelsea Hospital.	Multiple myomata reaching up to the umbilicus.	Profuse metrorrhagia.	Cured.	Ether bronchitis after operation.
2	40	June 23rd.	In private practice.	Multiple myomata reaching above the umbilicus.	Increasing growth; no hæmorrhage.	,,	Recovery uninterrupted.
3	44	Oct. 22nd.	Middlesex Hospital.	Multiple myomata reaching above the umbilicus.	Increasing growth; profuse metrorrhagia.	,,	,, ,,
4	40	Oct. 23rd.	Chelsea Hospital.	Soft myoma of the size of a pine-apple.	Increasing rather rapidly.	,,	,, ,,
5	38	Oct. 27th.	In private practice.	Multiple myomata filling the pelvis and reaching above the umbilicus.	Retention of urine.	,,	,, ,,
6	39	Dec. 31st.	Middlesex Hospital.	Multiple myomata up to the umbilicus.	Progressive growth; no hæmorrhage.	,,	,, ,,
7	41	1897. Jan. 8th.	Chelsea Hospital.	Multiple myomata up to the umbilicus.	Profuse metrorrhagia.	,,	,, ,,
8	34	Jan. 22nd.	Middlesex Hospital.	Cystic myoma of the size of a fœtal head.	Profuse metrorrhagia.	,,	,, ,,
9	40	Feb. 12th.	Middlesex Hospital.	Multiple myomata up to the umbilicus.	Profuse metrorrhagia.	,,	,, ,,
10	39	Feb. 19th.	Chelsea Hospital.	Multiple myomata up to the umbilicus.	Profuse metrorrhagia.	,,	,, ,,
11	48	March 12th.	Chelsea Hospital.	Multiple myomata up to the umbilicus.	Increasing in size and causing difficult defecation and numbness in the left leg.	,,	,, ,,
12	49	March 15th.	Middlesex Hospital.	Multiple myomata filling the abdomen and reaching to the xiphoid cartilage.	Increasing growth; metrorrhagia.	Death.	Pulmonary embolism on the eighteenth day.*
13	44	March 18th.	Middlesex Hospital.	Myomata filling the pelvis, expanding the cervix, and reaching up to the umbilicus.	Frequent retention of urine.	Cured.	Recovery uninterrupted.
14	37	March 19th.	Chelsea Hospital.	Myomata of the size of a fœtal head.	Metrorrhagia and retention of urine.	,,	,, ,,
15	50	March 19th.	Chelsea Hospital.	Myomata filling the right broad ligament and extending up to the umbilicus.	Progressive growth and metrorrhagia.	,,	Secondary hæmorrhage on the fourteenth day.†
16	40	March 22nd.	In private practice.	Single myoma reaching one inch above the umbilicus.	Metrorrhagia.	,,	Recovery uninterrupted.
17	35	April 1st.	Middlesex Hospital.	Myomata extending up to the umbilicus.	Metrorrhagia.	,,	,, ,,‡
18	40	April 1st.	Middlesex Hospital.	Myoma filling the pelvis and expanding both broad ligaments.	Retention of urine.	,,	,, ,,
19	35	April 11th.	In private practice.	Multiple myomata of the size of a head.	Pain and increasing growth.	,,	,, ,,
20	37	April 28th.	In private practice.	Myomata extending above the umbilicus.	Severe hæmorrhage and increasing growth.	,,	,, ,,§
21	40	May 23rd.	In private practice.	Myomata extending above the umbilicus.	Excessive menorrhagia.	,,	,, ,,
22	33	May 27th.	Middlesex Hospital.	Myomata filling the pelvis and reaching up to the umbilicus.	Excessive menorrhagia with retention of urine.	,,	,, ,,
23	51	July 2nd.	Middlesex Hospital.	Large myoma filling the abdomen.	Increasing growth.	Death.	Very collapsed after the operation; died from cardiac failure.
24	43	Oct. 14th.	Middlesex Hospital.	Myoma of the size of a cocoanut.	Severe menorrhagia.	Cured.	Recovery uninterrupted.
25	42	Oct. 20th.	In private practice.	Myoma reaching above the umbilicus.	Severe menorrhagia.	,,	,, ,,
26	29	Oct. 21st.	Middlesex Hospital.	Myoma of the size of a cocoanut.	Severe menorrhagia.	,,	,, ,,
27	41	Nov. 11th.	Chelsea Hospital.	Myoma impacted in the pelvis, also reaching above the umbilicus.	Œdema and phlebitis of the left leg; menorrhagia.	,,	,, ,,
28	48	Dec. 10th.	Middlesex Hospital.	Myoma of the size of two fists.	Excessive metrorrhagia.	,,	,, ,,
29	36	Dec. 12th.	In private practice.	Pelvic and abdominal myomata.	Pain and retention of urine.	,,	,, ,,
30	31	Dec. 16th.	Middlesex Hospital.	Pregnancy with interstitial and sub-serous myomata.	Pain and increasing growth.	Death.	Great tympanites; cardiac failure on the fourth day; no peritonitis.
31	41	1898. Jan. 23rd.	In private practice.	Myoma reaching two inches above the umbilicus.	Severe hæmorrhage.	Cured.	Recovery uninterrupted.
32	32	Feb. 2nd.	In private practice.	Myoma of the size of a cocoanut.	Severe hæmorrhage.	,,	,, ,,
33	40	Feb. 10th.	In private practice.	Myomata reaching above the umbilicus.	Severe hæmorrhage.	,,	,, ,,
34	32	Feb. 11th.	Chelsea Hospital.	Myoma reaching to the umbilicus.	Metrorrhagia and retention of urine.	,,	Convalescence retarded by ill-defined pneumonia on the twenty-sixth day.
35	39	Feb. 26th.	Chelsea Hospital.	Myoma of the size of a fist.	Menorrhagia and metrorrhagia.	,,	Recovery uninterrupted.
36	33	Feb. 26th.	Chelsea Hospital.	Myomata reaching up to the costal margin.	Rapid growth.	,,	,, ,,
37	46	March 6th.	In private practice.	Enormous tumour; the abdomen of the size of pregnancy at term.	Rapid growth.	,,	,, ,,
38	33	April 1st.	Chelsea Hospital.	Pelvic myoma.	Dysuria; menorrhagia.	,,	,, ,,

68 CONSECUTIVE CASES OF ABDOMINAL HYSTERECTOMY FOR UTERINE FIBROIDS—(*continued*).

No.	Age.	Date of operation.	Where performed.	Nature of tumour.	Indications for operation.	Result.	Remarks.
		1898.					
	43	April 14th.	Middlesex Hospital.	Myoma extending half way up the umbilicus.	Menorrhagia.	Cured.	Recovery uninterrupted.
40	36	April 22nd.	Chelsea Hospital.	Myoma filling the pelvis.	Menorrhagia and metrorrhagia.	,,	,, ,,
41	33	June 5th.	In private practice.	Myoma reaching above the umbilicus.	Pain and metrorrhagia.	,,	,, ,,
42	47	June 24th.	Chelsea Hospital.	Myoma reaching above the umbilicus.	Severe menorrhagia and metrorrhagia.	,,	,, ,,
43	37	July 1st.	In private practice.	Myoma of the size of a cocoanut.	Severe menorrhagia and metrorrhagia.	,,	,, ,,
44	42	July 15th.	Chelsea Hospital.	Pelvic and abdominal myomata.	Retention of urine; menorrhagia.	,,	,, ,,
45	42	Sept. 30th.	Chelsea Hospital.	Myoma filling the pelvis and rising two inches above the umbilicus.	Pain and hæmorrhage.	,,	,, ,,
46	44	Oct. 6th.	Middlesex Hospital.	Myomata of the size of a cocoanut.	Excessive hæmorrhage.	Death.	Death on the fourth day from cardiac failure; no peritonitis; œdema of the lungs; 36 calculi in the gall-bladder.
47	35	Oct. 15th.	In private practice.	Myomata reaching up to the umbilicus.	Severe metrorrhagia.	Cured.	Recovery uninterrupted.
48	50	Oct. 31st.	Chelsea Hospital.	Myomata filling the pelvis and reaching up to the umbilicus.	Abdominal pain; frequent and painful micturition.	,,	,, ,,
49	47	Oct. 31st.	Chelsea Hospital.	Myoma reaching halfway up to the umbilicus.	Profuse menorrhagia.	,,	,, ,,
50	40	Dec. 17th.	Middlesex Hospital.	Myoma reaching to the umbilicus.	Retention of urine and increasing growth.	,,	,, ,,
51	48	Dec. 17th.	Middlesex Hospital.	Myoma reaching up to the ensiform cartilage.	Severe metrorrhagia.	,,	,, ,,
		1899.					
52	45	April 28th.	Chelsea Hospital.	Myoma rising above the pubis, also pressing down the bladder.	Dysuria and abdominal pain.	,,	,, ,,
53	32	April 28th.	Chelsea Hospital.	Myoma rising above the pubis, also pressing down the bladder.	Dysuria and abdominal pain.	,,	,, ,,
54	42	April 29th.	Middlesex Hospital.	Myomata reaching to the umbilicus.	Abdominal pain; increasing growth. The patient cannot work.	,,	,, ,,
55	38	May 9th.	In private practice.	Pelvic and abdominal myomata.	Pain and retention of urine.	,,	,, ,,
56	46	May 17th.	In private practice.	Myoma of the size of two fists.	Severe menorrhagia.	,,	,, ,,
57	42	June 8th.	Chelsea Hospital.	Myoma reaching to the umbilicus and filling the pelvis.	Continual hæmorrhage.	,,	,, ,,
58	43	June 9th.	Middlesex Hospital.	Myoma of the size of a cocoanut.	"Repeated floodings."	,,	,, ,,
59	48	June 22nd.	Middlesex Hospital.	Pregnancy with fibroids of the cervix.	Irregular floodings.	,,	,, ,,
60	29	July 27th.	Middlesex Hospital.	Myoma of the size of a fœtal head.	Severe menorrhagia.	,,	,, ,,
61	42	July 30th.	In private practice.	Myoma filling Douglas's pouch.	Pain and hæmorrhage.	,,	,, ,,
62	31	Sept. 21st.	In private practice.	Myoma reaching up to the umbilicus.	Severe menorrhagia.	,,	Thrombosis first of the left femoral vein and then of the right.¶
63	36	Sept 30th.	In private practice.	Myoma of the size of a cocoanut.	Severe menorrhagia.	,,	Recovery uninterrupted.
64	45	Oct. 5th.	Middlesex Hospital.	Myoma filling the pelvis.	Pain and difficulty in micturition.	,,	,, ,,
65	47	Oct. 12th.	Middlesex Hospital.	Myomata reaching the umbilicus.	Severe menorrhagia.	,,	,, ,,
66	40	Nov. 5th.	In private practice.	Large myoma reaching nearly to the ensiform cartilage.	Increasing growth and pain.	,,	,, ,,
67	44	Nov. 11th.	Chelsea Hospital.	Myoma reaching half way to the umbilicus.	Menorrhagia and dysmenorrhœa.	,,	,, ,,
		1900.					
68	29	Feb. 15th.	Middlesex Hospital.	Myoma reaching up to the umbilicus.	Increasing size and severe menorrhagia.	,,	,, ,,

* This patient had not a single bad symptom for 18 days and was, in fact, about to leave the hospital. An hour after a hearty dinner, whilst using the bed pan, she suddenly fell back dead. A post-mortem examination revealed a large pulmonary embolus which had its origin in the left internal iliac vein. The uterine stump was healthy and the peritoneal flaps were firmly united. There was no trace of peritonitis.

† This patient was very pale and unhealthy looking. 14 days after the operation she had rather a profuse hæmorrhage from the vagina and a tumour formed in the left side of the abdomen reaching up to a level with the umbilicus. The woman was somewhat collapsed. She was etherised. I then transfused her with four pints of saline fluid, after which I opened the abdomen, cleared out the blood and clots from between the layers of the left broad ligament, and secured the b eeding vessels by putting on three large clamp forceps. Iodoform gauze was packed round the forceps and the abdominal incision was closed. The forceps and gauze were removed after 48 hours. An indiarubber drainage-tube was inserted and the patient made an uninterrupted recovery.

‡ This case was very difficult as the operation was complicated by a suppurating cyst in each broad ligament; both cysts ruptured during removal and filled the pelvis with pus; notwithstanding this the patient made an uneventful recovery.

§ The operation was uncomplicated. The abdominal wound was healed and the stitches were removed on the eighth day, strips of adhesive plaster being put on to support the abdominal wall. Next day the patient had a violent fit of retching; the whole length of the abdominal wound re-opened and a large quantity of intestine was forced out between the strapping. I was hurriedly sent for and on arrival at the Nursing Home found the intestines covered with plaster and blue wool. I cleansed them as well as I could, replaced them, and sewed up the abdominal wound anew. The patient (to my astonishment) recovered without a single bad symptom.

‖ This patient (who was sent to me by Dr. Henry Holberton of Hampton Court) had the largest myoma I have operated upon. When the abdomen was opened I found that the left broad ligament contained a large amount of the mass and after its removal a huge cavity remained between the layers of the broad ligament. This cavity I completely closed by whipping the sides securely together from below upwards by a continuous silk suture, and thus obviated the necessity for the use of a drainage-tube. Recovery was complete and uninterrupted.

¶ This patient was sent to me by Mr. A. S. Cooke of Stroud. She was a single woman and was very anæmic from loss of blood. The operation was uncomplicated, but during convalescence she first developed thrombosis of the left femoral vein. And as this was getting better a similar condition developed on the right side; she had no other unfavourable symptom; no abdominal pain or tenderness; the thrombosis was evidently due to her very anæmic condition. She recovered perfectly.

continuous silk suture, but now I omit this as it is unnecessary to close the upper end of the cervical canal; indeed, there is a possible advantage in leaving it open, as if there were any oozing from the stump the blood might escape through the cervical canal into the vagina. Up to the present date I have performed intra-peritoneal hysterectomy 68 times with four deaths (see Table), but one of these occurred when the patient was convalescent and about to leave the hospital, so that my mortality is 4½ per cent., and this percentage seems to me a fair one for cases of this operation, but, as I have already stated, where the operation is an uncomplicated one, the mortality should not be more than 1 per cent. or 2 per cent.

This operation of intra-peritoneal hysterectomy is, in uncomplicated cases and when the tumour (or tumours) does not involve the cervix, a by no means difficult one, but when the growth fills the pelvic cavity and also burrows between the layers of the broad ligament and when there are adhesions between it and the intestines, &c., I imagine that there is no operation that taxes the skill and resources of a surgeon more. In the cases in which the tumour grows between the layers of the broad ligament (as in Fig. 3) after it has been

FIG. 3.

Multiple myomata of uterus. *a*, Bristle passed through cut cervical canal. *b*, Portion of large tumour which grew between the layers of the left broad ligament. *c*, Cut edge of peritoneum. One-third natural size.

shelled out a raw cavity is left. This cavity is best treated by whipping the walls securely together from below upwards (after hæmorrhage has been stopped) by means of a continuous silk suture, and thus the necessity for drainage either by a tube or by iodoform gauze is obviated.

I will bring this lecture to a close by a few hints on the treatment of the patient both before and after operation. If a woman be very weak and pale from loss of blood she should be put on a generous diet and given an iron mixture for a few weeks prior to operation. There are two chief causes of death after hysterectomy—viz., heart failure and intestinal paralysis. The best way to prevent the first is to let the patient have a hypodermic injection of three minims of solution of strychnia three times a day for a week before the operation and three or four days after it. A beef-tea enema, with half an ounce of brandy if necessary, should be given a few hours after the operation and repeated every six hours until the patient is taking plenty of nourishment by the mouth. Always be on your guard lest intestinal paralysis with dangerous tympanites should set in. Hysterectomy appears to cause much shock to the sympathetic system and if you allow marked tympanites to occur your patient will probably succumb to it no matter what you do. Prevention is far better than cure and my plan is as follows: a rectal tube is passed well up the bowel every four hours after the operation, and if flatus is not passing after 24 hours have elapsed I order an ounce of turpentine in a pint of hot water to be thrown high up the bowel. As a rule one injection is sufficient, but if not it is repeated three or four times a day. To these injections of turpentine and to the hypodermic injections of strychnine I pin my faith. I do not believe in saline aperients by the mouth; indeed, unless flatus be freely passed per anum, the less put into the stomach the better. After operation my patients have nothing to drink for the first 24 hours, except a teaspoonful of hot water every hour if they suffer much from thirst. If there be much retching or sickness a feeder of hot water in which 20 grains of bicarbonate of soda have been dissolved will often give great relief. As to food, it is a good plan to begin on the next day with three ounces of tea and milk (they usually beg for a cup of tea), then one ounce of milk with half an ounce of hot water every hour afterwards (unless sickness should set in, when everything by mouth must be stopped and the strength be maintained by nutrient enemata). After a day or two the quantity of nourishment can be increased and it need not be given as frequently as every hour. Beef-tea or chicken-broth may alternate with the milk. Everything taken by mouth should be hot, as cold things—such as ice, soda-water, &c.—are liable to cause flatulent distension. Morphia (or opium in any form) should never be administered unless the patient be in great pain (which she seldom is) or is very restless. The bowels are moved by a soap-and-water enema on the sixth or seventh day, after which the superficial suture in the abdominal wall is removed and the patient is given solid food.

Remember, gentlemen, that at the present day peritonitis ought never to be met with after abdominal section, unless, of course, some condition existing at the time of operation, such as the rupture of an ovary or a Fallopian tube containing pus, gives rise to it. Apart from such unavoidable complication if peritonitis sets in you may be sure that there is something faulty in the details of the operation. The hands and arms of the operator, of his assistant, or of the nurses may not be aseptic or the instruments or sponges have not been perfectly prepared. It is a sacred duty, then, which devolves on everyone taking any part in an abdominal section to see to it that he or she has left nothing undone that could possibly help to save the patient's life.

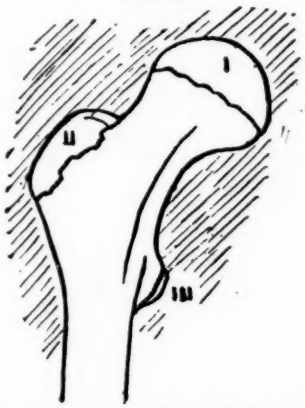
PLYMOUTH BOROUGH ASYLUM.—At the meeting of the Plymouth Borough Council held on April 9th it was decided to enlarge the Plymouth Borough Lunatic Asylum at Blackadown by erecting buildings to accommodate 250 additional patients. The estimated cost, including furnishing, was £32,500.

COXA VARA.[1]

BY C. B. KEETLEY, F.R.C.S. ENG.,
SENIOR SURGEON TO THE WEST LONDON HOSPITAL.

COXA VARA may be defined as a deformity of the upper epiphyseal region of the femur in which the head of the bone sinks to a lower level than normal, in extreme cases almost touching the lesser trochanter. Coxa vara has also been named "curvature of the neck of the femur," but it is not likely that so short and handy a name will be displaced by a phrase including seven words and not less open to criticism.

FIG. 1.



The upper epiphyseal region of the femur. I., II., III., epiphyses. (From a specimen in the Museum of the Royal College of Surgeons of England.)

In coxa vara the upper border of the neck of the femur is longer than normal and the lower border shorter than normal (see Figs. 2 and 3). The upper border may be as much as three times the normal length. A necessary result is that the neck is more horizontal than normal or it may descend instead of ascending in the usual way. The articular surface of the head may thus come to look downwards. There is another remarkable and practically important change. The neck is bent in a horizontal as well as in a perpendicular plane, with the convexity forwards (Figs. 4 and 5).

Coxa vara does not consist of a mere diminution of the angle formed by the long axis of the neck with the long axis of the shaft of the femur. Indeed, the changes are not confined to the neck. They always involve the head and sometimes extend some distance down the shaft, just as in genu valgum the deforming influence often affects and curves the lower third or half of the shaft. The horizontal change is perhaps not constant. It manifests itself clinically by producing eversion and diminished range of inversion of the limb. Hofmeister arranged a collection of 53 cases of coxa vara into three groups: (1) with no outward rotation; (2) with outward rotation; and (3) with inward rotation (rare, only three cases). No one but Hofmeister himself had met with examples of this third group. In one of his cases one limb belonged to Group 1 and the other to Group 3. When a perpendicular section is made, the strongest and most compact part of the bone is seen to be not the lowest part of the neck but the upper part, near the epiphyseal cartilage, on both the distal and proximal side of that cartilage.

The articular cartilage is sometimes thinned towards the centre of the head. Usually there are no osteophytic growths and, with the exception of my own first case, no recent signs of rickets have been seen on microscopic examination, perhaps because the rachitic process was over, though leaving the deformity behind. A microscopic examination of the wedge of bone removed from my case was made by Dr. W. S. Colman, then house physician at

[1] A paper read before the Medical Society of London on March 12th, 1900.

FIG. 2.

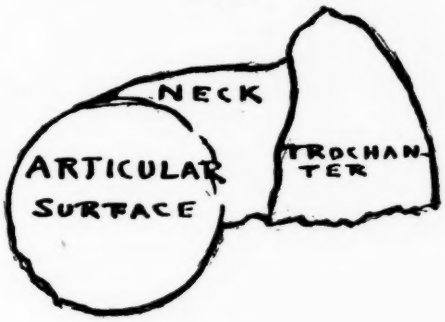


FIG. 3.

Fig. 2 and Fig. 3 respectively. Posterior and anterior diagrammatic views of the neck, &c., of a femur affected with coxa vara. (After Kocher, *Deutsche Zeitschrift für Chirurgie*, 1894, Band xxxviii., p. 536.) Note the articular surface looking backwards and downwards instead of inwards and upwards.

FIG. 4.

FIG. 5.

Similar specimen to that sketched in Fig. 2 and Fig. 3, but viewed respectively from above and from below. (Pen-and-ink sketch after Kocher's engravings, showing the horizontal curvature of the femoral neck, which limits the range of inversion.)

the West London Hospital. It showed "exactly such changes as are seen in bones known to be affected with rickets." Very frequently other, probably rachitic, deformities co-exist. The co-existence of scoliosis and genu valgum suggested to me the correct diagnosis in my first case.

Writers who do not believe in the relation of rachitis adolescentium to coxa vara seem to have curious ideas of what are the usual symptoms of the former affection. For instance, one author says of a case: "No evidence of rickets; genu valgum present on both sides"! Surely the conjunction of coxa vara and genu valgum is itself evidence of rickets, though, of course, not conclusive.

Adolescents attacked with rickets do not present the same clinical picture as infants. They are not visibly rachitic in every limb. They are not pot-bellied, bow-legged, bead-ribbed, &c., any more than they are unable to walk and collapse in the spine when they sit down. The older a person is when attacked with rickets the more limited and localised are his resultant deformities likely to be.

Deformity of the upper end of the femur, including increased angularity of the neck, has been recognised for many years as a common symptom of general rickets in young children. Jenner referred to it in his lectures. What has attracted so much attention in the last 11 years is the deformity when observed in adolescents.

I believe that in many, if not in most, cases of genu valgum the knee deformity is a compensatory curve to a certain degree of coxa vara. It would take too long a digression to give reasons, but I would invite anyone interested in the question to examine the rachitic skeletons preserved in our museums.

Another thing which I have twice distinctly noticed in cases of my own, and which I believe I can trace in the portrait given by Kocher of one of his cases, is an alteration in shape of the bones of the face and forehead. I do not like to call it a deformity. It is not necessarily unpleasing. It is most marked in one case (Fig. 8). The facial bones seem thin and expanded, especially in the orbital and nasal regions. I do not say that they *are* thin, only their appearance of expansion suggests it. The orbits are shallow and the eyeballs are inclined to be prominent. The ridge of the nose does not rise sharply. In fact, there is a lowness of relief about some of the features but something essentially different from the ordinary "flat face."

Symptoms.—Pain in the hip, brought on or increased by walking, is almost always the first symptom noticed. This pain may extend down to the knee, which is perhaps one reason why these cases have been so often confounded with hip disease. Soon afterwards the patient begins to limp and soon tires on walking. In bilateral cases the second hip is generally attacked soon after the first—e.g., at an interval of three or four months. The usual age at commencement is from 12 to 18 years, especially about 15 years of age. Eventually the objective signs appear. The trochanter rises above its proper level, usually with shortening of the limb as a result. Abduction becomes limited or abolished at the hip, flexion also, as well as internal rotation. The foot is generally more or less everted. Genu valgum appears. It is probably a compensatory curvature. Flat-foot and lateral curvature of the spine are occasionally seen. In severe cases the movements of the hip become extremely limited, so that it may easily be supposed by mistake to be the seat of fibrous ankylosis. In a small proportion of cases external rather than internal rotation is reported to have been limited. Sometimes flexion is comparatively free. The range of flexion can sometimes be increased by everting the limb. Passive mobility generally seems to be greater than active mobility. As is apt to be the case with ordinary flat-foot the venous circulation is often not good and the extremities tend to be rather cold and blue when allowed to hang down. When the thigh is much adducted the knees are thereby brought one in front of the other. It is then especially that genu valgum is likely to co-exist. A single-hip case limps, but when both hips are affected the sufferer waddles, shuffling one knee round the other as he walks. When the hips and knees are flexed in such a case the thighs cross.

Diagnosis.—My first case, the subject of which had visited various surgeons and hospitals, had been diagnosed as respectively periostitis of the femur (the trochanter was broader as well as higher than normal), sarcoma of the femur, and dislocation of the femur on the dorsum ilii. Other cases have been diagnosed as "arthritis adhesiva." I am afraid I do not know the meaning of this term, unless it means ankylosis secondary to inflammation of the joint. According to Frazer, it was the diagnosis made by Kocher of his first case before he had excised the joint and had seen the nature of the case explained by the specimen. I have seen a case exhibited at a society as one of separation of epiphysis, and when I asked for the points which distinguished it from coxa vara the distinguishing symptoms pointed out to me were exactly those of coxa vara. This case, or rather the skiagrams of it, are published as a case of separation of epiphysis. I have tried, but unsuccessfully, to see the patient. The waddling gait of congenital dislocation may suggest coxa vara. But the looseness of the joint in most cases of congenital dislocation contrasts with the stiffness of coxa vara. Coxa vara contrasts with hip disease in the following points. Gentle passive movements and pressing the head into the acetabulum are not painful. There are no startings at night. As a rule, wasting of the thigh is much less marked, though not absent. The head can be felt in the acetabulum, however high the trochanter may be, and it is not tender to direct pressure. Pain is easily relieved by rest without fixation. Roentgen rays are of the greatest value in finally settling the diagnosis. The skiagram should be studied in connexion with the general clinical picture presented by the case. Nothing is more misleading than a skiagram studied by itself.

Prognosis.—The disease is progressive at first, but it tends ultimately to come to a stop. The deformity remains. In the worst cases not only is there great shortening but the joint is so stiff that the patient has difficulty in lacing his boots and in sitting down comfortably, especially on a low chair, and is easily fatigued by walking. The general health does not suffer, except indirectly through pain and want of exercise.

Treatment.—An obvious indication is to restore as far as possible the natural shape of the bone by osteotomy. Another is to relieve the pain by rest. A third is to increase the range of movements by passive exercises and even by forcible movements under anæsthesia. One of my patients said that he was thus benefited by a bone-setter, who, I need not add, was quite mistaken as to the nature of the case he had to deal with. Palliative measures are rest in bed, with or without extension. Two or three weeks generally suffice to remove the pain and some of the stiffness. In old-standing cases iodide of potassium and salicylate of soda, as well as the systematic use of purgatives and massage, might be also tried. I am referring to middle-aged patients or at least to cases of, say, ten years' standing in which there is sometimes a suspicion of complication by gout or rheumatism. Bicycling was of great benefit to one of these cases (a unilateral coxa vara of 25 years' duration). In the early years of the case sea-air, Parrish's food, and other anti-rachitic remedies should be tried. It is impossible to say when such treatment ceases to be useful. Although I think that the influence of weight pressure is a factor that has been greatly exaggerated in explaining this deformity, carrying weights to the extent of causing fatigue should be avoided, and if the patient's occupation necessitates this he had better change it. None of my own patients followed occupations requiring them to carry weights. The relief of pain and stiffness by rest is apt to prove of only temporary value. Both are liable to recur after exposure to fatigue or on the occurrence of damp weather. Massage is frequently recommended. It can at best only relieve aching and lessen stiffness. It cannot affect the deformity.

Operative treatment.—In some of the earlier cases a mistaken diagnosis led to the excision of the head and neck of the femur and part of the trochanters. As the joint is practically healthy excision is now pretty generally condemned. The original excisions served a useful purpose, however, because they furnished the specimens from which first Müller and afterwards Kocher gave accurate accounts of the anatomy of the disease. What is to be thought of reports like the following (a reference to one of Schneider's cases)? "Patient limps, but has no pain. Treatment: resection of the hip-joint. The patient was discharged cured." Cured! What of? Not of the limp, we may be sure; not of the adduction either, unless bony ankylosis ensued, nor of the shortening. Increased mobility may have been obtained, but at the expense of increased weakness and diminished length.

The practical question at present is how and where to perform osteotomy. "Kocher, Hofmeister, and others have

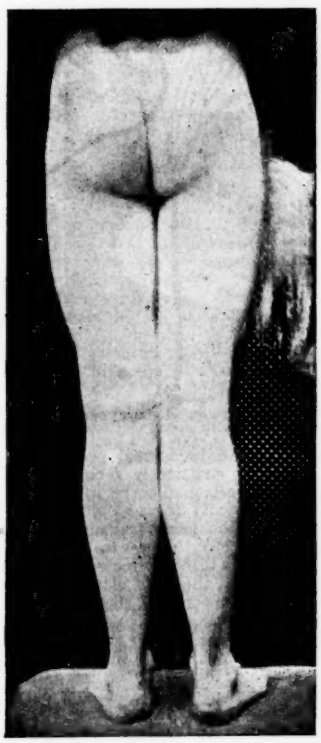
advised a subtrochanteric osteotomy," writes Frazer. He might have added that subtrochanteric osteotomy had been performed for coxa vara some years before by myself. It has recently been done and strongly recommended by Watson Cheyne. I removed a wedge. The patient herself was much pleased with the result, mainly because it greatly diminished the shortening. Watson Cheyne directed his attention

FIG. 6.

From the case described by me in the *Illustrated Medical News* for September, 1888. Note the adduction at the left hip, the genu valgum, the eversion and the shortening. The prominence at the hip is not the great trochanter, but is due to a curve in the shaft below. The great trochanter could be felt much higher and considerably above the level of the head of the femur, which could be felt in the normal situation. I performed a sub-trochanteric wedge-osteotomy on this case in 1888. A skiagram of this case demonstrates in the hip the characteristic changes of coxa vara.

chiefly to remedying the eversion and effected great improvement. He used a silver plate and steel pins to fix the fragments in the corrected position. The seat of the deformity being mainly above the trochanter the obvious indication would be for supra-trochanteric osteotomy but for the comparative depth and difficulty of controlling the upper fragment, consisting only of the head and part of the neck, after that operation. It has been recommended by Kraske, whose operation consists of the removal of a wedge from the neck, with the base upwards, through an anterior longitudinal incision. Budinger says that linear supra-trochanteric osteotomy does just as well if the limb be kept well abducted and everted during the after treatment. My experience of osteotomy in general is that if the operator be a practised osteotomist a better result can generally be obtained from a wedge than from a linear osteotomy, except where, as in Macewen's operation for genu valgum, the bone is comparatively deep and slender and the correction desired very simple. The neck of the femur is deep and slender, but the correction desired is not simple. The abnormally great length of the upper border of the neck of the femur invites strongly to a wedge osteotomy. But it must be remembered that the lower border of the femoral neck is also abnormally short. No operation hitherto

FIG. 7.



From a youth, aged 18 years, the head of whose right femur was about on a level with his great trochanter. The shortening of the limb was almost completely compensated for by increased length of the leg below the knee. There were well-marked symptoms of coxa vara from the age of 14 years.

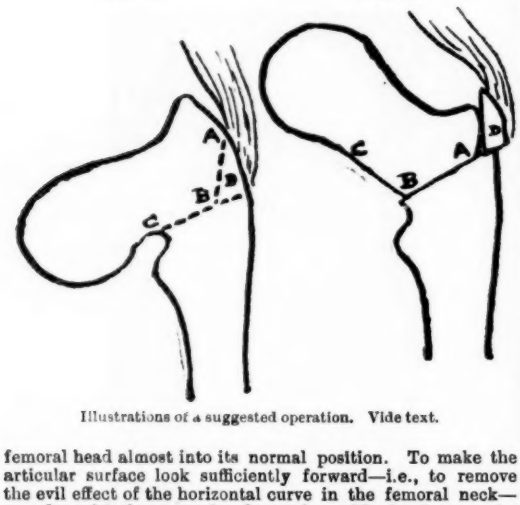
performed would cure the shortness, which constitutes a part of the deformity which is of great practical importance. If the problem were merely one of joinery such a procedure as the following might be

FIG. 8.

Shows the face of the patient in one of my cases of coxa vara. The changes are exceptional, but I have seen similar, though less marked, features in another case. They probably only occur when the rachitis has begun at an earlier age than adolescence.

adopted. The femur would be divided obliquely, from without inwards and downwards, just above the lesser trochanter. The outer surface of the upper fragment (D, Fig. 9) would be cut off and turned upwards with the muscles, which would be left attached to it. Then the surface A B (Fig. 9) would be brought down into the original position of B C and fixed there with pins. The result as shown in Fig. 10 would be to bring back the articular surface of the

FIG. 9. FIG. 10.



Illustrations of a suggested operation. Vide text.

femoral head almost into its normal position. To make the articular surface look sufficiently forward—i.e., to remove the evil effect of the horizontal curve in the femoral neck—a wedge with the convexity forward would also have to be removed from either the lower fragment at B C (Fig. 9) or the upper at A B (Fig. 9). Otherwise the external rotation of the limb would have to be corrected by a separate simple osteotomy, done after the first osteotomy was recovered from. Mere rotation inwards of the limb would disturb the fit of the fragments if done as a part of the first osteotomy. But surgery is not mere joinery, and such an operation as I have sketched out would never be popular with practical surgeons. If carelessly or awkwardly done there would be risk of imperfect fixation and even of splitting the bone in fixing the pins. Nevertheless, the operation is a practicable one and properly executed would almost certainly give a first-class result, better than any got from simple osteotomy. Bold division of soft parts, especially joint-capsule, would be required. Pins are extremely useful in fixing bony fragments after either fracture or osteotomy, but they should never be trusted to alone. They should be properly supported by splints, bandages, and extension apparatus, and the action of these should be carefully superintended. The pins should be of thickly silver-plated steel. The holes for them should be bored by sufficiently large gimlets or American bits, as the insertion by force of pins into small holes will result in splitting the bone. Of course, when the bone is soft and tough and the pin small in diameter a bradawl suffices for boring.

Historical.—My chief object in adding a few words under this head is to make a small claim for priority. The position as regards this point was clearly and concisely put by Ernst Müller of Stuttgart in the *Centralblatt für Chirurgie* of Sept. 1st, 1894. His first work on the subject appeared in Bruns's "Beiträge zur Klinischen Chirurgie," published in November, 1888. He reported therein two cases in which the head, neck, and part of the trochanteric region of the femur had been excised. He gave a very good description of the clinical histories and of the specimens and expressed the opinion that the affection was of rachitic origin. Afterwards von Lauenstein, Hoffa, Rotter, all in 1890, and later Hofmeister and others, published additional cases and described fresh specimens. Then Kocher in 1894 published a paper—"Ueber Coxa Vara eine Berufskrankheit der Wachstumperiode"—of the highest intrinsic value, but doing scant justice to Müller and others. Müller wrote in the *Centralblatt für Chirurgie* of Sept. 1st, 1894, p. 818: "Even if Kocher had not read my work in the original the others (viz., the papers of Hoffa, Lauenstein, &c.), which all referred to mine, could not have escaped his observation." And further: "Kocher had therefore no right to assert that he published his cases without knowing anything about my work, since otherwise he lays himself open to the reproach of not inspecting (surgical) literature, which is the first thing which an author should do before he describes a new disease." Kocher defended himself with his usual ability, but not, I think, with complete success. He persuaded himself (I think erroneously) that his cases differed essentially from Müller's and that because they presented at the hip certain analogies with the changes at, and near, the ankle in talipes varus only cases precisely like his ought to be called "coxa vara."

I must now point out that Müller himself could scarcely have exhaustively "inspected surgical literature" before publishing, because what, to him at least, should have been obviously a case of coxa vara was published by me in the first number of the *Illustrated Medical News* (of date Sept. 29th, 1888). Müller's first publication appeared in the following November. My paper was entitled, "A Case of Rachitis Adolescentium, in which the Disease was for Several Years Localised in the Trochanteric and Infra-trochanteric Region of the Right Femur and afterwards attacked the Spine; Wedge Osteotomy for the Femoral Deformity and Plaster-of-Paris Jacket for the Spinal." In the text I wrote of the case that it was "one of *rachitis adolescentium, attacking first the upper epiphyseal region of the femur* (see Fig. 1), and secondly, after some years, the epiphyseal regions of the vertebral bodies." A photograph attached shows very plainly the adduction of the hip, the eversion of the foot, the shortening, and the compensatory knock-knee (Fig. 6). My case was the first, therefore, in which the nature and seat of the disease were diagnosed correctly during life and before operation.

There are several reasons why I have not hitherto received credit for this: 1. The next observations were made in Germany; indeed, for some years the literature of the subject was purely German. 2. I did not make the mistake of diagnosing the affection to be one of the hip-joint and then, by excising the upper end of the femur, put myself in a position to give an anatomical description of the specimen. 3. I omitted to give any clinical account of the objective symptoms and left the photographs to speak for themselves. 4. The art editor of the journal added a misleading diagram "to explain the nature of the *operation*." I pointed out its erroneous nature in the last paragraph of my paper, but in terms rather too mild. Lastly, the journal in question only lived two years; its production was found to be too expensive. It was the largest and most copiously illustrated medical journal of its time. Various continental and American surgeons have written to me asking for the loan of the journal, but the bound volume in my possession was too cumbrous to send abroad.

Previously to the date of my case Dr. Monks had given an excellent clinical description of a case which was most likely one of coxa vara, and he had, moreover, distinctly recognised that the trochanters had risen above their normal level with regard to the heads of the femora. He had, however, believed that the femoral heads were also dislocated and that the cause of the changes was rheumatoid arthritis. Assuming the case to be one of true coxa vara I think Dr. Monks must have been mistaken on these points. Various pathological specimens had also from time to time been preserved or described but had been supposed to be due to rheumatoid or to inflammatory changes or to traumatism.

Lastly, the existence of coxa vara in rachitic children had been long known—indeed, it could be seen in almost every pathological museum of importance. Jenner referred in his lectures to the great frequency with which the upper extremity of the femur is deformed in the rickets of childhood. It was, however, reserved for Ernst Müller to give the first complete description of coxa vara; and Kocher's paper is so valuable from the exactness and fulness of its anatomical descriptions that, with or without priority, it must also remain a classic. The fullest account in the English language is probably Frazer's in the *Annals of Surgery* for June, 1899, and the most elaborate in any language is Hofmeister's (op. cit.). Whitman, Bayer, Kirmisson, and others have made valuable contributions and, as well as Frazer, they give references to the literature of the subject.

Grosvenor-street, W.

EPILEPTIC ATTACKS PRECEDED BY SUBJECTIVE AUDITORY AND TASTE SENSATIONS, PROBABLY DUE TO A TUMOUR OF THE LEFT TEMPORO-SPHENOIDAL LOBE.

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THE patient, a woman, aged 40 years, was seen by me first in November, 1898, with Dr. E. H. Warner of Bristol, and again in January, 1899. The chief symptoms had then been present for about a twelvemonth, and consisted of headache, giddiness, occasional attacks of sickness, and pains in the eyes, in the above order. She walked with some difficulty and staggered a little on turning. There was well-marked but moderate optic neuritis in the left eye and slight optic neuritis in the right eye. Micturition and defecation were normal. At both of my visits the patient appeared to be in a dull and heavy mental state, and she answered questions slowly. Left hemianæsthesia, not complete, was present in November, affecting the face, the trunk, and the limbs, but this had disappeared in January, at which time there was twitching of the right side of the mouth. There was no evidence of syphilis, but as the headaches showed nocturnal exacerbations she was put on anti-syphilitic treatment and afterwards went away for a change. She improved very much for a time and lost the headaches, but as she relapsed Dr. Warner sent her into the Bristol General Hospital on July 5th, 1899.

The patient stated that her father had been insane, but had recovered, and that her mother had suffered from neuralgia and angina pectoris. She had had two healthy children and had had no miscarriages; with the exception of two attacks of rheumatism she had always been healthy and had never had any blow or fall on the head. She said that the illness began two and a half years ago with pains in the head and in the eyes, which felt as if they were being dragged from the sockets. The headache was very variable, sometimes going away for weeks at a time. At the onset she had diplopia, which lasted for a few weeks and never returned again. In November, 1897, she went to the Bristol Eye Hospital and was given dark glasses; after this she was better and had no headaches for six months, when they returned and became persistent. In October, 1898, she had a sudden attack of excruciating headache followed by vomiting, after which she "became unconscious, remaining so for two days and three nights, only regaining consciousness on the third day." Since then she had had frequent attacks of headache and vomiting and intense pains around the right eye and orbit, with tingling in this region and in the upper lip. Three months before admission she had a fall owing to the right leg giving way without any apparent reason. She had noticed that her memory was failing. On admission she did not mention the peculiar fits, of which an account was obtained a fortnight later. Whilst talking to her then about the fits she mentioned that they were preceded by an unpleasant taste. On further questioning her she said that during her illness she had noticed that she occasionally heard a sound like a band playing at a distance; the tune was always the same and seemed familiar and yet she could never recall it at other times. Directly the sound went away the patient had an unpleasant taste in her mouth, and at the same time she "felt confused" and her own voice and the voices of other persons sounded peculiar and unnatural, although she could understand what was said. She had had these symptoms, always in the above order, at intervals since she first began to be ill, except for six weeks, during which time she was free from them. In appearance the patient was healthy and well nourished. She was slow and deliberate in her movements and intelligent; her memory seemed fairly good though she described it as failing, but her mental condition was rather dull and apathetic. The thoracic and abdominal organs were found to be healthy and the urine was normal. In walking there was a slight tendency to drag the right leg. The mouth deviated to the right side and there was a slight weakness of the right arm and leg, but all movements could be well performed and there was no ataxy. The dynamometer showed right hand 15 and left hand 17. She was right-handed. There was no muscular wasting. The muscles of the right leg were very slightly rigid, otherwise there was no muscular rigidity. The right knee-jerk was exaggerated and the left was normal. The superficial reflexes were present although the plantar reflexes were difficult to obtain. It was doubtful whether there was not slight loss of sensation over the right cheek, otherwise sensation was everywhere normal to touch, pain, and temperature, and no evidence of special defect in the power of localisation was found. Romberg's symptom was not present. Hearing, taste, and smell were normal to the ordinary tests, but with Galton's whistle the sound was heard with the scale at 5½ left ear, 8½ right ear. With the exception of the deviation of the mouth to the right no paralysis of any cranial nerve was detected. The organic reflexes were normal. The movements of the eyes were natural; the left pupil was a little larger than the right and both pupils reacted well to light, accommodation, and pain, and consensually. There was a moderate degree of optic neuritis on the left side and slight filling of the disc on the right. The vision was unimpaired and the visual fields were normal. The chief symptoms on admission were (1) peculiar "attacks," (2) headache, chiefly nocturnal, (3) giddiness, (4) occasional sickness, (5) pains in the eyes, (6) a moderate degree of optic neuritis by far most marked on the left side, (7) a dull mental state, (8) slight weakness of the right leg in walking and in less degree of the right arm, (9) slight deafness to high notes of Galton's whistle in the right ear, and (10) some months previously, slight left hemianæsthesia and tendency to stagger in walking. The patient was given iodide of potassium in gradually increasing doses with solution of perchloride of mercury. She suffered occasionally from intense headache, but on the whole she improved during the first fortnight after admission.

On July 22nd the woman in the next bed, who was fortunately an intelligent and observant person, saw the patient in a fit, of which she gave the following description: "In the afternoon she was just dropping off to sleep when she heard the patient talking and spluttering to herself. Saliva was running from her mouth and she looked strange, as if she had just awakened from sleep. Her teeth were clenched and her eyes were open. She was talking in a laboured way through her closed teeth, her head was hanging down and shaking, but her arms and legs did not move. She said, 'Same kind of tune as I always hear, only it is gone.' The attack lasted for some minutes, during which she repeated this sentence six times and she then gradually came to herself." On the 27th the patient had whilst at lunch a peculiar metallic taste in her mouth, but she heard no sounds and had no subjective smell. She turned pale, but did not lose consciousness and understood what was said to her. During the early part of August she suffered much from headache and occasionally from nausea and during most of the time she was very drowsy and dull mentally. She had two or three attacks, always at meal-times, in which she turned pale, had a rancid and disagreeable taste in the mouth, which she remembered afterwards, and a flow of saliva, and during the attack she muttered some incoherent words. She seemed never now to have the musical sounds of previous attacks, but she complained of a feeling of horror "as if something dreadful was going to happen." There was now slight but distinct deafness in the right ear, otherwise there was no change in the symptoms. On August 17th she had an attack whilst I was talking to her. I asked her an ordinary question, to which she did not reply and looked confused as if she did not understand what I said; then her face turned pale; in a few seconds smacking movements of the lips came on, which were repeated a few times, together with a movement of the tongue as in licking the lips, and then the angle of the mouth was drawn to the right. After a few seconds the face flushed, she gave a short cough like that due to pharyngeal irritation, and there was a copious flow of saliva (about an ounce) from the mouth. She sat quite still during the fit and the limbs were not moved, nor was there twitching of any muscles in the face or limbs. The pupils dilated slightly. She did not appear to lose consciousness. Immediately after the attack she was obviously unable to speak, and she gave me the impression that she heard what was said to her but did not comprehend the words—that she heard them merely as sounds. She appeared confused after

the attack, and it was about from three to five minutes before she could speak, and for some time longer her speech was very indistinct from slurring of the words and she used wrong words. The mouth was very decidedly drawn to the right for some time. When she recovered the first thing she told us was that in the attacks a queer sensation of horror came over her and that she felt, "Oh, dear, something dreadful is going to happen."

On August 18th, as I was going away for my holiday she wished to go home, and on Sept. 23rd she was re-admitted. On first going home she had suffered much from headache and had several fits, beginning with the sound of a band playing and followed by a disagreeable rancid taste. Latterly she had been much better, had had no headache, and the attacks had been less frequent and milder, with the sensation of taste only. On admission she was in much the same condition. Her speech was indistinct, the right knee-jerk was exaggerated, there was no ankle-clonus or muscular rigidity, and the right elbow-jerk was normal. There was no paralysis, but the right arm and leg were a little weaker than the left, and the right foot moved awkwardly in walking. Both pupils were now small, the left being larger than the right. There was no defect of sensation or of the special senses. The visual fields were normal and the optic neuritis remained stationary in the condition above described. The dull mental state and drowsiness continued. The fits were still very frequent, occurring two or three times a week, and in one of them she passed urine in the bed. The fits had now rather changed in character; they were never initiated by the musical sounds and she only rarely had the nasty taste. She now felt faint or confused, and sat down; she turned pale, she could not speak, and she looked anxious, and then followed a flow of saliva from the mouth and she came round again. Two or three of these fits were preceded by intense pain and tingling below the right orbit and in the right cheek. On Oct. 7th the patient said that she was pregnant and wished to go home, and on investigation it was found that she was in the sixth month of pregnancy. She remained in the hospital until Nov. 23rd and during this month began to suffer again from headache and vomiting, and the attacks were again attended with the peculiar taste and sense of horror, but not with any auditory sensation. Otherwise her condition was unchanged and she insisted upon going home at this date. I learnt from Dr. Warner that she remained much the same until the end of December when she became more drowsy and passed rather rapidly into coma which lasted for two days and ended in death. No post-mortem examination could be obtained.

The case is remarkable for the highly complex character of the fits, which belong to what have been called by Dr. Hughlings Jackson the "uncinate groups of fits,"[1] and which have been elucidated by his writings.[2] It was most unfortunate that no post-mortem examination could be obtained, but I think that the general course and termination of the illness and the character of the symptoms point almost certainly, when the case is compared with the others published, to a tumour in the left temporo-sphenoidal lobe. In the early fits the presence of an auditory sensation (band-playing) is interesting and I have found no mention of a similar phenomenon in other cases of the same kind. Possibly the tumour may have been more extensive in this case and may have involved directly, or indirectly through interference with the blood-supply, the cortex of the first temporal convolution. It is noteworthy that in later attacks these sounds were not heard, and then there was slight deafness in the opposite (the right) ear. The other features of the attacks correspond fairly with those of previously published cases in the "crude sensation" of taste, in the confused or "dreamy" state, in the sensation of dread (in the patient's words, "as if something dreadful was going to happen"), in the smacking movements of the lips, to which was added licking of the lips by the tongue, and in the profuse flow of saliva. In a few of the attacks the right side of the mouth also twitched and was drawn to the right, but there was no twitching of any other muscle. It seems to me possible that the movements of the lips and tongue and the flow of saliva might be simply reflex, supposing that the "nasty taste" was excited by a cortical discharge in the "centre for taste," and would follow just as they do more or less automatically when a strong taste is tasted in the mouth under ordinary circumstances. It is also interesting to note that the attacks occurred very frequently at meal-times, as if excited by the ordinary physiological stimulus to the centre. In this instance there were no elaborate actions after the attack, there was no "crude sensation" of smell in the fits, and the sense of taste was not lost between and after them. On the other hand, the affection of speech during and just after the fits was most marked, the patient appeared partly conscious but unable to comprehend anything said to her and equally unable to say anything, and for a little time afterwards speech was slurred and indistinct in utterance and wrong words were substituted for the correct words, of which she seemed quite unaware. It may be added that the patient was a quiet, ordinarily intelligent woman, that she was dull during the period in which she was under observation, that she was not at all imaginative, and that great care was taken not to suggest any symptoms to her. The presence of the above-described subjective sensations was only found out by accident from a casual remark which she made after she had been for two weeks in the hospital about a nasty taste which she occasionally suffered from. The other symptoms were elicited gradually; she said that she had not thought them of sufficient importance to mention them. At first the only symptoms which could aid in the localisation of the lesion to one or other side of the brain were the marked predominance of optic neuritis in the left eye, the exaggeration of the right knee-jerk, and the clumsy movement of the right leg and foot in walking. Later the twitching of the right side of the mouth observed during the fit was a further help. I do not know how far stress could be placed on the disturbance of speech as indicating the side of the lesion; in the only fit I saw, and which is described above, the speech disturbance was out of proportion to the momentary, and far from complete, affection of consciousness, and persisted for some time afterwards, so as to form to the observer one of the most prominent features of the attack. The patient lost all power of speaking, and so far as could be made out, though conscious of the presence of myself and those who were with me in the ward, she failed to comprehend for some minutes after the attack what was said to her, and then the power of comprehension seemed to return before that of speaking, and when she spoke she did so extremely indistinctly at first, and used wrong words, of which she again was at first unconscious, but shortly afterwards recognised her mistakes and looked annoyed. It occurred to me that these features might indicate affection of the auditory speech centre, but on the other hand it would be difficult to say that they were not merely a part of a post-epileptic state of partial consciousness. That such states did occur in this case was shown on one occasion by her remaining standing in chapel after everyone else had sat down, an attack having come on whilst she was standing up.

Bristol.

[1] "Neurological Fragments." THE LANCET, Jan. 14th, 1899, p. 79.

[2] Dr. Hughlings Jackson and Dr. Purves Stewart: Brain, Winter Number, 1899, p. 534, et seq. In this paper references are given to other cases.

DONATIONS TO HOSPITALS.—Mrs. Neate has made a donation of £500 to the building fund of the school of the London (Royal Free Hospital) School of Medicine for Women, Hunter-street, W.C.—The committee of the North-eastern Hospital for Children, Hackney-road, London, has received a donation of £315 from the Central Hackney Musical and Benevolent Society.—At the annual meeting, on April 5th, of the North Riding Infirmary, at Middlesbrough, the secretary announced that £1000 had been granted to the institution by the trustees of the Marriott bequest.—Mr. R. C. Poulter has contributed £100 to the New Hospital for Women, Euston-road, London.

ROYAL DEVON AND EXETER HOSPITAL.—The committee of this hospital have issued a statement as to the financial position of the institution, reporting that for the past 20 years there has been an annual deficit of about £400. The cost for each bed in the hospital during 1899 was £58, whereas the average cost of each bed in provincial hospitals of the same size was £61 5*s*. The committee add that the management is economical and efficient, but the hospital is accorded a want of annual support which is without parallel in England. To save money, by emptying 15 beds permanently, would exclude 135 sick patients in the year, and this they consider quite unjustifiable. It is to be hoped that some means may be found for increasing the subscription list.

ON THE CAUSATION OF NERVOUS SYMPTOMS IN TYPHOID FEVER,

WITH AN EXPERIMENTAL STUDY OF THE ACTION OF TYPHOID TOXINS ON THE GANGLION CELLS OF THE CENTRAL NERVOUS SYSTEM.

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I.—INTRODUCTORY.

THE symptoms denoting an affection of one or other part of the nervous system which may develop during or after an attack of typhoid fever are numerous and of various kind. Professor Hare[1] has given an excellent account of the clinical aspect of such symptoms, dealing with them according to the stage of the disease at which they severally become manifest. The various types of symptoms are enumerated by Professor Hare as follows. With the onset of the disease there may be delusions or aberration of mind, acute maniacal symptoms, and symptoms of meningitis in cases in which actual meningitis is rarely present. During the developed stage of the disease there may be dreamful sleep and restlessness, apathy, delirium in sleep or delirium in the waking condition, the various symptoms which may be due to meningitis and to embolism or thrombosis of the cerebral vessels, and hysteria and epilepsy. In a far advanced stage of the disease or during convalescence paralysis may occur. Such paralysis "may occur as a local paralysis or monoplegia, as a general paralysis, as a paraplegia, or as a hemiplegia, and it may be due in the first three instances to peripheral neuritis, in the second instance to a myelitis or a neuritis, and in the case of hemiplegia to cerebral lesions, such as thrombosis, embolism, hæmorrhage, and meningo-encephalitis. Sometimes the monoplegia or partial paraplegia may be due to a poliomyelitis." To complete the catalogue of the more obvious of the symptoms implying some disturbance of the central nervous system we must mention the mental disorders of various kind and degree which may supervene during convalescence. It is scarcely necessary to say that the symptoms enumerated constitute merely some of the more obvious or more striking of the indications of an affection of the nervous system which may occur in typhoid fever, and are not by any means the only phenomena due to a disturbance of nerve function met with in the disease.

In considering the origin of symptoms generally in typhoid fever a twofold method of causation must be taken into account. On the one hand there are the symptoms due directly to the action of the specific bacillus, and on the other there are those due to the action of other bacteria which find in the lesions of the mucous membrane of the intestines an opportunity for the exercise of a pathogenic influence. If we roughly divide the course of an attack of typhoid fever into three periods—the period of onset, the period of declared infection, and the period of decline and convalescence—it is clear that it is only during the first period and in the earliest part of the second that we can study clinically the results of a pure infection by the bacillus typhosus. The facilities afforded by the primary intestinal lesions for the absorption of toxic substances produced in the contents of the digestive tract by bacteria normally or accidentally present there, the secondary infection of the intestinal lesions by some of these same bacteria, and the occasional infection also by such bacteria of parts remote from the intestine, all render it difficult or impossible to decide by clinical observation alone the exact share which the specific bacillus bears in the causation of the complex symptoms which denote an attack of typhoid fever.

When making this statement we are not forgetful of the increasing number of cases recorded in which the occurrence of typhoid infection without the characteristic intestinal lesions has been verified during life by the specific serum reaction and after death by the result of bacteriological examination. But the number of such cases observed is not yet sufficient to throw much light on the subject now under discussion. With regard to the causation of nervous symptoms in particular the following general statements may be made. The symptoms developing with the onset of the disease will in the main be the result of a blood-poisoning, a toxæmia, caused by the absorption of toxic substances elaborated by the specific bacilli in the primary lesions of the intestinal mucous membrane, in the mesenteric glands, and in the spleen. To these will be added in some cases the results of a general blood infection—such as a toxæmia due to toxins elaborated in the circulating blood by the specific bacilli there present or an actual meningitis due to the local action of the bacilli on the tissues concerned. In the period of declared infection these factors are still present, but the secondary ones referred to above now also come into play. Thus there may be symptoms due to a toxæmia resulting either from the absorption of toxic substances from the contents of the digestive tract, or from the primary intestinal lesions themselves after these have become secondarily infected by bacteria other than the specific bacillus, or from the presence of toxins formed in the blood by such bacteria after they have gained access to the general circulation. And as an additional sequence to the blood infection there may again be the symptoms due to an infective meningitis.

The nervous symptoms, such as motor paralyses, of the period of decline and convalescence may be regarded in the main as due to the effects of after-degenerations following on the more acute morbid conditions produced in one way or another during the earlier stages of the disease. In this paper we propose to deal more particularly with the question of the action of the specific typhoid toxin upon the central nervous system.

II.—THE CAUSATION OF SYMPTOMS OF CEREBRAL IRRITATION.

The symptoms of cerebral irritation in typhoid fever may be of such a nature as to either suggest or clearly indicate the occurrence of meningitis. When this has been so either positive evidence of meningitis may be found after death or, on the other hand, there may be no obvious change of any sort to account for the particular symptoms observed. If an actual meningitis is found a bacteriological examination will demonstrate the presence in the exudation of either the specific bacillus or of one of the bacteria usually associated with it—and in these cases bacillus coli communis, streptococcus pyogenes, and diplococcus pneumoniæ have been found. If, on the contrary, no obvious morbid changes are found after death we must assume that the symptoms of cerebral irritation resulted from a toxæmia arising in one of the ways already referred to; and from the fact that very marked symptoms of cerebral irritation, unaccompanied by gross morbid changes, not infrequently occur at quite an early period of the disease and before the time for secondary complications has come, we may infer that the toxins of the specific bacillus are by themselves capable of causing such symptoms. Clinically the diagnosis between these conditions of cerebral irritation due to toxæmia alone and of cerebral irritation due to actual meningitis must wait on the development of positive signs of the latter, such as motor paralysis or optic neuritis. The following two cases are typical examples of cerebral irritation due to these causes.

CASE 1.—A girl, aged nine years, was admitted into the Middlesex Hospital under the care of Dr. W. E. Wynter. The previous history of the case given was as follows. On August 12th the patient complained of pains in the head and about the body. On the 15th she took to her bed on the 16th and 17th she had severe attacks of epistaxis, and on the 19th she became delirious. No spots on the skin had been observed and the bowels had been constipated from the beginning of the illness. The patient when admitted into hospital on the 23rd was still delirious. The tongue was dry and brown, the abdomen was retracted, the abdominal muscles being somewhat rigid, and the spleen was distinctly enlarged. There was no skin eruption. The temperature was 102·6° F. The patient was usually noisy and restless; when quiet she lay on her side with her thighs and legs strongly flexed. The head was not retracted. The pupils were of equal size. The urine did not give Ehrlich's

[1] The Medical Complications, Accidents, and Sequelæ of Typhoid or Enteric Fever, 1899.

reaction. On the 24th the patient was still noisy and restless and it was necessary to draw off the urine by a catheter. The blood, tested in a dilution of 1 in 50, gave a good agglutinative reaction with bacillus typhosus. On the 25th the patient was very noisy, screaming from time to time. In spite of enemata the bowels had not acted since admission. On the 26th the general condition of things remained much the same. The urine was passed into the bed and the bowels were still inactive after the administration of castor oil enemata. The patient when awake kept screaming at short intervals. The temperature in the evening rose to 104·6° F., but was then lowered by cold sponging. On the 27th the patient was still very noisy and the bowels acted once after a small dose of calomel. On the 28th the patient was again noisy, but very weak, and the bowels acted three times. The temperature during the day ranged between 99·4° and 103·4°. On the 29th the patient kept lying still, uttering a low moaning cry now and again. She died in the evening, the temperature shortly before death being 103·4°.

The post-mortem examination was made during warm weather 18 hours after death. The principal changes found were extensive ulceration of Peyer's patches in the lowest part of the jejunum and in the ileum, with enlargement of the mesenteric glands; there was no ulceration of the large intestine. There was also found some pneumonic consolidation of the upper lobe of the right lung. To the naked eye the brain and its membranes appeared to be quite normal. Culture tubes were inoculated from the surface of the brain and from the cavity of the lateral ventricles. No growth occurred on any of the culture tubes except a few colonies of a gelatin-liquefying bacillus, the presence of which was evidently accidental.

CASE 2.—Our second case was that of a boy, aged 12 years, who was admitted into the Middlesex Hospital under Dr. W. Cayley. In this case the following history of previous illness was obtained. On Sept. 19th the patient, who had already been suffering from a slight cough for four or five days, complained of headache; on the following day he seemed to be feverish, complained of pain in the lower part of the abdomen, and was rather incoherent in his speech. On the next day he seemed very feverish and incoherence in speech was again noticed; he vomited once. On the 22nd he partly lost consciousness and passed his urine into the bed. On this day and on the previous one some difficulty in swallowing had been apparent. The bowels had up to now acted regularly once on each day of the illness, the stools having been of natural appearance. No skin eruption had been seen. The patient was admitted into the hospital on the 23rd in the following condition. He was almost unconscious and did not appear to take any notice of his surroundings; he once said "No" in reply to an inquiry as to whether he had any pain in his head, but otherwise did not take the slightest notice of any questions. His facial expression was that of frowning; his eyes were kept open and rolled from side to side occasionally, but no oscillatory movements of the globes were noticed. The pupils were of equal size, they were slightly dilated, and they reacted quickly to light. There was neither retraction of the head nor rigidity of the neck. The abdomen was neither unduly retracted nor unduly distended, and no enlargement of the spleen could be felt. The patient seemed to resent any examination and flinched slightly when the abdomen was palpated. There was no cutaneous eruption to be seen, nor was the tache cérébrale obtainable. The plantar and patellar reflexes were in abeyance, the epigastric reflex was feeble, and the cremasteric reflex was obtainable but was sluggish. The temperature was 103° F. The pulse-rate was 140, and it was irregular in force and rhythm; the volume of the pulse was small, and the arterial tension was low. The respiration rate was 32, and the rhythm was rather irregular. The tongue was dry and brownish. The urine was passed into the bed. On the 24th the patient was in much the same condition, lying in a lethargic state and moaning from time to time. Food was taken fairly well, but part of it was allowed to run out of the mouth. In the afternoon convulsive twitchings of the arms occurred, the head was strongly retracted from time to time, and some paralysis of the right side of the face was noted, the mouth being drawn to the left side when the patient uttered any cry. The eyes were kept closed, but when the lids of the right eye were separated there was a long delay before they closed again. There was no evidence of any paralysis of the proper ocular muscles. The urine gave a definite Ehrlich's reaction. On the 25th the mental condition remained very much the same; the patient moaned frequently and kept tossing his arms about. The facial paralysis was well marked, there were slight oscillatory movements of the eyes, and the pupils were moderately dilated and reacted to light. Ophthalmoscopic examination showed a normal fundus. The bowels were opened three times after a small dose of calomel. The blood in a dilution of 1 in 50 gave a good agglutinative reaction with a culture of bacillus typhosus. On the 26th and 27th there was no alteration to be noted. A slight appearance of the tache cérébrale was now obtained. The temperature ranged between 100·8° and 102·4°. No further action of the bowels took place. The patient died rather suddenly on Sept. 28th, the temperature shortly before death being 101·8° F.

The post-mortem examination was made nine hours after death. The principal changes found were extensive ulceration of Peyer's patches and an intense general folliculitis of the mucous membrane of the digestive tract. A few follicles at the cardiac end of the stomach were enlarged, there was universal enlargement of the follicles of the small intestine, and a similar condition of things in the large intestine. There was also a rather remarkable amount of enlargement of the mesenteric glands which studded the mesentery with nodular masses of the size of large marbles. The spleen was enlarged and weighed 13 ounces. There was pneumonia of the upper lobe of the right lung, which was in the stage of red consolidation. On opening the brain no excess of fluid was found in the meningeal cavity, but there were well-marked injection of the pia mater and a considerable excess of a turbid and reddish-brown fluid in the lateral ventricles. Bacteriological examination was made of juice from the mesenteric glands, from the spleen, from the liver, and from the fluid in the lateral ventricles, and cultures were also taken from the surface of the meninges. Cultures of isolated colonies were obtained by making zigzag streaks on gelatin. Bacillus coli communis and bacillus typhosus were obtained from one mesenteric gland and a pure culture of bacillus typhosus from another; a pure culture of bacillus typhosus was also obtained from the spleen. The liver juice proved to be sterile of bacteria. The cultures from the surface of the meninges and from the fluid in the lateral ventricles showed two kinds of colonies, the one rather opaque and the other very thin and translucent. The latter colonies, which proved to be those of bacillus typhosus, were largely in excess of the former, which proved to be those of bacillus coli communis. The proportion in which the colonies of these bacteria were present on different tubes varied between 1 to 10 and 1 to 28. The identity of the cultures of bacillus typhosus was absolutely established by all the usual culture tests. The bacillus gave a good agglutinative reaction with the blood of a rabbit immunised against typhoid infection, a serum dilution of 1 in 1000 being used. The cultures were also tested in the ordinary clinical way against the blood of patients with typhoid fever, the dilution in such cases varying from 1 in 40 to 1 in 100. Sections from the frontal convolutions and motor area of the cerebral cortex from both these cases were examined after staining by Nissl's method; the results of this part of the examination will be given later. We have to thank Dr. Cayley and Dr. Wynter for their kind permission to make use of the clinical notes of these cases.

As to Case 1 there is but little to add in the way of comment. We regard the symptoms of cerebral irritation as having been a result of typhoid toxæmia, for they were evidently independent of any gross anatomical change. In this case, as in the other, constipation of the bowels prevailed throughout the illness. In connexion with the second case several points present themselves for consideration. Clinically a diagnosis of meningitis was readily arrived at, and before Widal's test had been applied the infection was considered to be probably tuberculous. The facial paralysis which subsequently appeared was, as the clinical evidence showed, of central origin. A rather striking feature of the post-mortem examination was the universal and well-developed folliculitis of the intestinal mucous membrane, which, together with the unusually extensive enlargement of the mesenteric glands, presented an appearance rarely seen in the post-mortem room. Taking into consideration the numerical superiority of the specific bacillus in the cerebral lesion, together with the fact that the clinical history indicated a meningitis of some duration, there will probably be little difficulty in regarding the meningitis as primarily due to a pure typhoid

infection. The presence of bacillus coli communis in relatively small numbers probably represented a casual secondary infection which occurred shortly before death.

The total number of cases recorded in which a meningitis has been proved to be due to bacillus typhosus is very small. Professor Hare[2] was able to collect only 16 cases in which satisfactory proof of the nature of the meningeal infection was forthcoming. Since then we have been able to find records of two additional cases. Thus, Hugot[3] has recorded a case of typhoid fever in a child in which the cerebro-spinal fluid was turbid and yielded a purulent sediment on standing; a pure culture of bacillus typhosus was obtained from the fluid. Fisher[4] has also recorded a case of typhoid fever in a man, aged 25 years, who died in the third week of his illness. Appearances indicative of meningitis were found after death and cultures of bacillus typhosus were obtained from beneath the meninges over the cerebellum. Thus including our own case we are able to refer to only 19 cases of typhoid meningitis in which the specific local infection has been proved by the ordinary bacteriological methods.

III.—The Condition of the Ganglion Cells of the Central Nervous System in Cases of Typhoid Infection in Man.

In view of the occurrence of paralyses, which clinically appear to be of central origin, during the later period of the infection and during convalescence after typhoid fever it becomes of importance to ascertain whether the specific toxins exert any action on the ganglion cells of such a nature that the structure of these is in any way altered. The results of examining these cells in cases of typhoid fever have been recorded by Marinesco, Babes, Ewing, Nichols, and J. Turner. In every case the method of examination employed was some modification of that originally proposed by Nissl. Marinesco[5] examined two cases, and found that the changes observed were slight or unimportant. Babes[6] found definite changes, such as chromatolysis, vacuolation, and disappearance of the nuclei and nucleoli in the ganglion cells of the spinal cord. Ewing[7] examined the cells of the central nervous system in two cases. In one case there were found chromatolysis of the ganglion cells of the medulla and cord and uniform diminution in size, and sometimes in number, of the chromatic bodies in Purkinje's cells. The condition of the ganglion cells of the cerebral cortex is not mentioned. In the second case there was loss of chromatic bodies in the cells of the medulla and on Purkinje's cells; the cells of the cerebral cortex showed a partial bleaching with irregular distribution of the chromatic bodies. In both of Ewing's cases delirium and high temperature had been present during life. Nichols[8] has recorded the results of his examination in three cases of human infection, in addition to his observations in experimental infection of rabbits which will be referred to further on. The first human case was one of rather severe infection of an ordinary character, terminating 11 days after the date of onset. The second case was also one of severe infection, death occurring with perforation of the ileum on the tenth day after admission into the hospital. The third case was of special interest in that it was one of typhoid infection without intestinal lesions. A man, aged 67 years, was admitted into the hospital in a dull, listless condition, which soon passed into one of unconsciousness. The temperature was 104° F., and physical examination revealed signs of pneumonia of the right lowest lobe. The patient died two days after admission, and at the post-mortem examination consolidation of the lowest lobe of the right lung, with gangrene and perforation of the visceral pleura, was found, and there was a recent thrombus in the branch of the pulmonary artery supplying this lobe. The spleen was enlarged and soft. There were no intestinal lesions. A bacteriological examination demonstrated the presence of bacillus typhosus in the consolidated area of the right lung, in the spleen, and in other organs. Nichols examined by Nissl's method portions from the cervical, thoracic, and lumbar regions of the spinal cord in each of the three cases, and examined the corresponding dorsal root-ganglia in the first two. In the third case it was found that the ganglion cells of the cord were in an advanced stage of alteration. "The cells were swollen and distorted in varying degrees. The central portion of the cell was a mass of ill-defined, extremely pale, flocculent-looking material, studded everywhere with small round refractive bodies, probably representing remains of the normal achromatic network. Scattered along the periphery are a few small and large clumps of pale, washed-out-looking granules, undergoing the later stages of degeneration and solution." The nuclei were large and swollen, displaced from their central position, and bulging out from the periphery of the cell. They also showed changes from the normal in their staining properties. The nucleoli were pale and vacuolated, and frequently were seen protruding from the nuclei. Marked changes, but of a less advanced character than those found in this case, characterised the other two. Changes were also found in the cells of the dorsal root ganglia of the first two cases. The changes consisted mainly in a "rarefaction of the chromatic substance and extremely eccentric position and even bulging of the nuclei." J. Turner[9] mentions the case of an imbecile patient who died in an asylum from typhoid fever with high temperature, in whom changes in the nerve cells were found.

We have examined portions of the cerebral cortex from the frontal convolutions and from the motor area of both of the cases described in the last section, and also in a third case of a child who died in the third week of the illness from an ordinary severe attack of typhoid fever during which no special symptoms of cerebral irritation had been observed. The method of hardening and staining the tissues employed was that described by us in detail in a former paper,[10] and briefly consisted in hardening the tissues in formalin, cutting with a freezing microtome, and staining with methylene blue. In Case 1 the ganglion cells of the cerebral cortex were of perfectly normal appearance. In Case 2 the outline of many of the cell bodies appeared rather indistinct, and in a few instances the cells were considerably swollen. The Nissl bodies were in the majority of the cells well defined and normal in their distribution; in a few cells they had disappeared in places, leaving small unstained areas. But this last appearance was not at all a marked feature of the sections. There was no dark, patchy staining of the cell bodies, and the nuclei and nucleoli appeared to be absolutely normal in their staining reaction and in their position in the cell. In the third case the child had not presented any special cerebral symptoms during her illness and the cell bodies, nuclei, and nucleoli appeared in every way normal.

The total number of cases recorded which have been examined by the method of Nissl is not yet sufficient to allow the drawing of any absolute conclusions as to the action of typhoid toxin on the nerve cells in human infection. But our own cases would tend to show that in spite of the occurrence of typhoid infection of a severe type, accompanied by high temperature and very marked cerebral disorder, the ganglion cells of the cerebral cortex remain unaltered in structure, or at most—and with meningitis as a complication—may show only slight, ill-defined, and infrequent departure from the normal type of ganglion cells. In Case 2 we think that such changes as were found in the ganglion cells must be looked upon as being probably due to the meningitis present rather than as being an effect of a general toxæmia.

IV.—The Condition of the Ganglion Cells of the Central Nervous System in Experimental Typhoid Infection in Lower Animals.

The only investigation of the condition of the ganglion cells in experimental typhoid infection of which we can find any record is that carried out by Nichols,[11] who has published his results in the paper from which we have already quoted. Nichols found that the inoculation of rabbits with living cultures of bacillus typhosus was followed by marked changes in the appearance of the ganglion cells of the cord and of the dorsal root-ganglia when stained by Nissl's method; and these changes he looks upon as being confirmatory of the results of his examination of the same

[2] Ibid.
[3] Lyon Médicale, Jan. 22nd, 1899.
[4] Philadelphia Medical Journal, March 3rd, 1900.
[5] Comptes Rendus de la Société de Biologie, tome iv., série 10, 1897.
[6] Berliner Klinische Wochenschrift, No. 1 to No. 3, 1898.
[7] Archives of Neurology and Psycho-pathology, vol. i., No. 3, 1898.
[8] Journal of Experimental Medicine, vol. iv., No. 2, 1899. Nichols also refers to a thesis, delivered at Nancy in July, 1897, by C. Voinet, entitled, "Recherches anatomo-pathologiques sur la moelle épinière," in which the author describes the results of the examination of the spinal cord in cases of typhoid fever by Nissl's method in five cases "evidently with results much as above," (i.e., with the results obtained by Nichols).

[9] Brain, Spring Number, 1899.
[10] Transactions of the Royal Medical and Chirurgical Society, 1899.
[11] Loc. cit.

structures in cases of human infections. It seemed advisable, therefore, for us to investigate the appearances resulting after experimental typhoid infection in lower animals, in the hope of being able thus to settle one way or another the question as to the occurrence of these alleged changes. In the result we have not been able to confirm Nichols's statements as to the changes occurring in experimental infection, for neither after the production of an artificial typhoid toxæmia nor after an actual bacillary infection could we find, either in rabbits or in guinea-pigs, changes of the sort which he describes as occurring in the ganglion cells of the cord in rabbits. Table I. is an exact transcript of the details of the experiments on which Nichols founded his conclusions. The inoculations were made into the ear vein.

TABLE I.—*Showing the History of Inoculated Animals (Nichols).*

Number of animal.	Dose.	Remarks.
1.	2 c.c. 80-hour culture.	Very intense reaction; the animal died in two hours.
2.	2 c.c. 70-hour culture.	Ordinary reaction; the animal was killed in seven hours.
3.	2 c.c. 96-hour culture.	Ordinary reaction; the animal was killed in 33 hours.
4.	First day, 2 c.c., 2-day culture; third day, 2 c.c., 5-day culture.	Ordinary reaction after the first dose. After the second dose the animal rapidly succumbed in a few hours, i.e., 52 hours after the first inoculation.
5.	First day, 2 c.c., 2-day culture; third day, 2 c.c., 5-day culture.	Ordinary reaction after the first dose. After the second dose the animal was extremely weak, and lost weight for several days. At the end of the first week it seemed very feeble in its hind legs. As symptoms of convalescence began to appear the animal was killed nine days after the first inoculation.
6.	First five days, 1 c.c.; sixth and seventh days, 2 c.c.; eighth day, 15 c.c. into peritoneum.	The animal was very resistant. Blood agglutinated rapidly at the end of the seventh day. On the eighth day 15 cubic centimetres were injected into the peritoneal cavity without effect. On the twenty-third day paralysis of the hind legs was first noted. The animal was killed and a necropsy was made on the twenty-fourth day after the first inoculation.
7.	2 c.c., 72-hour culture.	The animal passed through the first effects and was allowed to live. About the twenty-fourth day paraplegia of the hind legs was first noted and great emaciation of the rump and legs. As symptoms of recovery set in the animal was killed on the twenty-fourth day after the first inoculation.

Whilst this table is copied exactly from Nichols's paper want of space compels us to abstract his description of the changes found in the rabbits which were experimented upon. Thus in No. 1, which died two hours after inoculation, a swelling of the Nissl bodies and a tendency to disintegration and disturbance of their orderly arrangement is described. In No. 2, which was killed seven hours after inoculation, these changes had already become marked, especially in the lumbar region of the cord. In No. 3, which was killed 33 hours after inoculation, the number of normal cells was greatly reduced, and very marked changes corresponding with those found in Nichols's first two human cases were present. In No. 4, which died 52 hours after inoculation, nearly all the cells were affected and practically no normal cells could be found. In No. 5, which was killed nine days after the first inoculation, the ventral horn cells in the lumbar region showed very few cells with changes similar to those already described in the previous animals. Slight changes were, however, found in some of the cells situated just above the level of the entrance of the sciatic nerve. Nichols thinks that the facts in this case strongly suggest the idea that the cells were undergoing a process of restitution after previous change. In No. 6, which was killed after 24 days, the appearance of the cells varied from that of health to that of an extreme degeneration similar to the condition described by Nichols in the human cases. In No. 7, which was killed at the end of 64 days, changes were found which Nichols again considers were in the main indicative of process of restitution in progress in injured cells.

In our own experiments we used both dead broth cultures of bacillus typhosus in order to observe as far as possible the results of a pure typhoid toxæmia without bacillary infection and we also used living cultures of the bacillus. In the latter case the cultures were grown in ordinary peptone beef broth and were used after 48 hours' incubation at 37°C. The broth culture, sterilised by heat, which we used in the first series of experiments, was prepared in the following way in order to ensure a satisfactory degree of toxicity. Flasks of peptone beef broth were inoculated with a culture of the bacillus fresh from the spleen of a patient who had died from typhoid fever. The flasks were incubated at 37°C. for four weeks. At the end of that time the purity of the culture was tested. The flask and its contents were then heated in a water bath at 65°C. for four or five hours each day during a fortnight. The dead bacillary emulsion thus prepared was injected into the peritoneal cavity. In the cases of No. 1 and No. 2 the third inoculation was carried out with an emulsion prepared from the same culture stock in exactly the same way. The essential details of our experiments are given in the following table:—

TABLE II.—*Experiments with Typhoid Toxins and Living Cultures (Foulerton and Thomson).*

Nature of inoculation.	Animal.	Dosage.	Duration of the disease.
Series I. Intra-peritoneal injection of dead broth culture.	Guinea-pig 1, 150 grammes.	6 c.c.	Died 15 hours after the inoculation.
	Guinea-pig 2, 165 grammes.	6 c.c.; 48 hours afterwards an additional dose of 10 c.c.	Died during the night between 50 and 60 hours after the second inoculation.
	Rabbit 1, 1275 grammes.	11 c.c.; 48 hours afterwards an additional dose of 15 c.c., and then a dose of 10 c.c. 39 days after the latter dose.	Killed under chloroform 11 days after the last inoculation.
	Rabbit 2, 1063 grammes.	11 c.c.; 48 hours afterwards an additional dose of 10 c.c., and then a dose of 10 c.c. 39 days after the latter dose.	Died during the night of the tenth day after the last inoculation.
Series II. Intra-peritoneal injection of 48-hours old living broth culture.	Guinea-pig 3, 337 grammes.	1·5 c.c.	Died 20 hours after the inoculation.
	Guinea-pig 4, 280 grammes.	1·5 c.c.	Died five days 18 hours after the inoculation.
	Rabbit 3, 878 grammes.	3 c.c.	Died during the night between six and 18 hours after the inoculation.
	Rabbit 4, 907 grammes.	3 c.c.	Died 20 hours after the inoculation.
Series III. Injection into the subcutaneous tissue of 48-hours old living broth culture.	Rabbit 5, 836 grammes.	1·5 c.c.	Died during the night about three and a half days after the inoculation.
	Rabbit 6, 992 grammes.	1·5 c.c.	Killed under chloroform four days and three hours after the inoculation.
	Rabbit 7, 865 grammes.	1·5 c.c.	Killed under chloroform five days and one hour after the inoculation.
	Rabbit 8, 907 grammes.	1·5 c.c.	Killed under chloroform 144 hours after the inoculation.

CLINICAL HISTORY, &c.

SERIES I.

Guinea-pig 1.—The brain and cord were removed immediately after death. The post-mortem examination showed hæmorrhages into the

mucous membrane of the stomach and intestines, the latter of which contained a large quantity of mucoid fluid.

Guinea-pig 2.—The animal was apparently recovering from the effect of the first inoculation when the second inoculation was given. Its weight on the evening before its death was 737 grammes. It died during the night in cold weather (December). The brain and cord were removed early next morning. The post-mortem appearances were as in Guinea-pig 1.

Rabbit 1.—After the first inoculation the temperature rose to 40·5° C. on the next day and to 41° C. on the second day, when the second inoculation was performed. On the day after the second inoculation the temperature was still 41° C. and it gradually fell to the normal on the fifth day, on which date the weight of the animal was 1220 grammes. On the date of the third inoculation the temperature was normal and the weight was 1337 grammes. After the third inoculation the temperature rose to 40° C, but was down again to normal within 48 hours. The weight fell away rapidly, being only 1091 grammes on the fifth day. The animal was chloroformed on the eleventh day and the brain and cord were removed.

Rabbit 2.—After the first inoculation the temperature rose to just over 40° C., and was a little higher when the second inoculation was performed; it began to fall on the second day after the second inoculation, and was a little above the normal on the fifth day. The weight on the fifth day had fallen to 1006 grammes. On the date of the third inoculation the temperature was normal and the weight was 1067 grammes. The temperature rose to 39·4° C. after the third inoculation. The weight fell away as in Rabbit 1, being 949 grammes on the fifth day after the third inoculation. The animal died during a cold night, and the brain and cord were removed early the next morning.

SERIES II.

Guinea-pig 3.—The temperature was 38° C. at the time of the inoculation; it rose to 38·5° C. three hours after inoculation, and was 37° C. on the following morning just before death. The brain and cord were removed immediately after death. The post-mortem examination showed intense congestion of the peritoneal surface of the viscera; the peritoneal sac contained an excess of serous fluid and a few flakes of lymph. The brain and cord were removed immediately after death.

Guinea-pig 4.—The temperature was 38° C. at the time of the inoculation, and was the same three hours after inoculation; it was 38·9° C. on the following morning, and it ranged between that and 38·2° C. up to the fifth day. On the morning of the sixth day it had fallen to 36·7° C., and death occurred soon afterwards. The weight fell gradually each day and was 191 grammes just before death. The post-mortem examination showed some little congestion of the peritoneal surface of the abdominal viscera, and an excess of fluid in both pleural sacs. The brain and cord were removed immediately after death.

Rabbit 3.—The temperature at the time of the inoculation was 38·4° C. The animal died during a cold night. The brain and cord were removed early next morning. The post-mortem examination showed some injection of the peritoneal membrane, with an excess of fluid in the sac.

Rabbit 4.—The temperature at the time of the inoculation was 38·4° C.; 18 hours afterwards it had fallen to 36·7°, and the animal was dying. The post-mortem appearances were as in Rabbit 3. The brain and cord were removed immediately after death.

SERIES III.

Rabbit 5.—The temperature rose to 39·8° C. on the second day after the inoculation and had fallen to 39° C. on the evening of the third day. The weight of the animal on the morning of the third day was 737 grammes. The animal died during a cold night and the brain and cord were removed early the next morning.

Rabbit 6.—The temperature rose to 39·4° C. on the second day after the inoculation; on the third day it fell to 38·4° C.; and on the fifth day it rose to 39·4° C. just before the chloroform was administered. The weight of the animal fell to 978 grammes. The brain and cord were removed immediately after death.

Rabbit 7.—The temperature rose to 39° C. on the second day after the inoculation; it fell to 38·4° C. on the third day; it rose again to 39·4° C. on the fourth day; and it was 40° C. on the fifth day just before chloroform was administered. The weight fell gradually each day—it was 722 grammes just before death. The brain and cord were removed immediately after death.

Rabbit 8.—The temperature rose to 39° C. on the second day after the inoculation, it fell to 38·5° C. on the third day, it was 39·2° C. on the fourth day, and it was 39·4° C. on the fifth and sixth days. The weight of the animal had fallen on the fifth day to 878 grammes. The brain and cord were removed immediately after death.

With regard to the course of the experiments there is but little to add to what is contained in the table. Rabbit 2 succumbed after inoculation with a dose of toxin no larger than either of the two previously given, and thus affords an example of that hyper-sensitiveness to the action of a toxin which sometimes follows the administration of immunising doses of the same toxin. Rabbit 1 also showed a marked reaction after the third inoculation, and was killed in order that the condition of the ganglion cells in the two animals might be compared. The blood of Rabbit 1 was tested for specific agglutinative properties, and using a dilution of 1 in 1000 of the serum a good sedimentation occurred within 15 hours in a broth culture of the bacillus, whilst with a dilution of 1 in 200 immediate agglutination and immobilisation of the bacilli occurred in a hanging drop preparation. In Series II. the usual results of the intra-peritoneal injection of a culture of average virulence were obtained. The specific infection was proved in each animal by subcultures from various parts after death. In Series III. the attempt was made to cause a rather less acute infection than had occurred in the animals of Series II. The first rabbit of this series having died on the fourth day the remaining three were killed, one on each of the three succeeding days, in order to observe the progress of any changes which might be occurring in the ganglion cells. Rabbit 7 was already dying when the chloroform was administered, whilst Rabbit 6 and Rabbit 8 had apparently suffered less severely from the inoculation and possibly might have survived. There was no indication of the occurrence of motor paralysis in any of our experimental animals. The brain and cord were removed from each animal as soon as possible—in most cases immediately after death—and were at once placed in formalin solution. The method of staining employed was exactly as with the material from our human cases. The examination of portions of the cerebral cortex from the frontal convolutions and from the motor area and of the grey matter of the cord at various levels showed that in all the cases the majority of the ganglion cells of these regions were of perfectly normal appearance. In a few cells here and there some alteration might be seen—either the outline of the cell-body appeared swollen, or in others the Nissl bodies seemed rather blurred, or in others, again, the outline of the nucleus was not very definite. But beyond such slight alterations as these nothing abnormal was observed in the sections, and, as already stated, the majority of the cells were quite normal in their appearance.

It will be seen, therefore, that our observations both in human disease and in the experimental infection of animals do not warrant the conclusion that typhoid toxin causes in the ganglion cells of the central nervous system changes of such a nature that constant and definite structural alteration can be demonstrated by Nissl's method of staining. It obviously, however, does not follow from this that certain nervous symptoms are not produced by the pure toxin, for the action of this may be of a bio-chemical nature unaccompanied by any definite histological changes, or it may be that the toxin acts upon some part of the neuron other than the cell body. We have not at present completed any detailed examination of the peripheral nerves in this disease, but from the comparative infrequency of symptoms of neuritis it would appear that this change when it does occur is not usually due to the uncomplicated action of typhoid toxin.

THE PRODUCTION OF LOCAL ANÆSTHESIA IN THE EAR.

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THE introduction of cocaine as a local anæsthetic had a most important influence upon surgery in general, and upon ophthalmology and laryngology more particularly. It was hoped that the drug might also be valuable in the field of aural surgery, but such hopes were to a large extent doomed to disappointment. The aqueous solution appears to have no anæsthetic influence upon the uninjured tympanic membrane, and in the cases in which the membrane is perforated the effect is only slight, though it is sometimes sufficient to allow of extraction of the ossicles; even under the most favourable conditions, however, the pain of this operation is by no means completely annulled by this means. A rather more satisfactory way of inducing local anæsthesia in cases where there are perforation and suppuration is by the use of cocaine in the pure dry powder. For the extraction of polypi and granulations this method gives a degree of anæsthesia which is sometimes sufficient for the purpose, but obviously it cannot be satisfactorily used in such operations as extraction of the ossicles, and it has of course no influence upon the uninjured membrane.

In acute inflammation of the middle ear no local anæsthetic has as yet been found which is at all satisfactory, and the pain, which is often severe in this affection, has frequently to be relieved by incision either under a general anæsthetic or if without it by subjecting the patient to indescribable agony though it be only of short duration. The use of an aqueous solution of eucaine, as suggested by Horne and Yearsley,[1] is subject to the same limitations as is the use of similar solutions of cocaine, because there is no doubt that the inefficiency is due to the vehicle used for

[1] Brit. Med. Jour., Jan. 16th, 1897.

dissolving the drug. The superiority of eucaine lies, not in its greater power of producing anæsthesia, but in the fact that the anæsthesia is of longer duration and toxic effects are not so liable to supervene, as was pointed out by the two writers referred to. The difficulty of bringing about a local anæsthesia in the tympanic membrane and middle ear appears to be due to the fact that the nerve terminations are protected by tissues which are able to resist the penetration of water through their substance. Thus the nerves of the tympanic membrane terminate in the inner layer of the membrane and the drug must be made to penetrate through the epithethial and dense fibrous layers before it comes into contact with the nerve terminations. If there is already a perforation the difficulty is not so great, but even in these cases there is usually a collection of pus and débris which hinders penetration. Granulations and polypi are too large to allow of penetration by water sufficiently rapid to obtain the effects of the drug satisfactorily.

With a view to finding some vehicle which would dissolve cocaine (or eucaine as suggested by the writers above referred to) and at the same time penetrate the tissues rapidly without destroying them I tried various solvents. The first which suggested itself was alcohol in the form of rectified spirits, but this, I found, was absorbed too rapidly, and, morever, it caused in some cases rather severe burning pain before the cocaine took effect. Various combinations of the volatile oils with rectified spirit were next tried, but as these solutions were only to a slight extent miscible with water they proved unsatisfactory. Finally, I tried a mixture of anilin oil and rectified spirit, and this, I found, met the requirements of the case admirably. It penetrates rapidly, is miscible to a considerable extent with water, and does not destroy the tissues. For experimental purposes I made up the following solution: five parts of cocaine hydrochlorate, 50 parts of dilute alcohol, and 50 parts of anilin oil. This gives a strength of a little less than 5 per cent. of cocaine. I placed a small quantity upon my own tongue, where it caused a sensation of warmth followed by a feeling of numbness and temporary loss of taste in the part with which it came in contact. The same solution was then applied to the normal tympanic membrane. The subject laid one side of his head upon a table and about 10 drops of the preparation were dropped into the meatus of the uppermost ear and allowed to run down on to the tympanic membrane. There was no pain following the instillation of the solution but only a slight sensation of cold in the ear. The head was held in the same position for a period of from three to five minutes and at the end of that time the excess of solution was mopped out on pledgets of cotton-wool wrapped round the end of a probe. On examination with the speculum the membrane appeared to be a little more transparent than before and the normal reflex was dulled. A blood-vessel along the posterior margin of the handle of the hammer appeared to be more distended than before the application of the solution, a condition which would not be expected from the use of cocaine, at least so soon after its contact with the tissues. On passing a fine blunt probe down to the membrane the latter was found to be perfectly anæsthetic in all its parts. The instrument might be drawn across its surface or pushed inwards against it, but the sensations of pain and of touch were quite in abeyance, the subject only being able to hear the rubbing noise of the probe against the membrane. The membrana flaccida, the handle, and the short process of the hammer were also involved in the complete anæsthesia. It is of interest to observe that the individual on whom the observation was made was the subject of a severe reflex aural cough, so that it was often difficult to examine the ear carefully under ordinary circumstances, as the cough began as soon as the speculum entered the meatus. Now, on this occasion there was no cough at all as the result of examination, so that it is clear that the solution must have anæsthetised, at any rate to a certain extent, the skin lining the meatus. Having thus found that the solution produced complete anæsthesia and that its application was not followed by unpleasant after-effects I determined to try its effect upon patients suffering from aural affections which were either painful in themselves or which necessitated some painful procedure.

The first patient on whom the preparation was tried was a girl, aged seven years. She had been brought to the Glasgow Central Dispensary on account of deafness in the right ear. The tympanum was half filled with exudation and as the condition had only improved slowly in spite of treatment I decided to evacuate the fluid cavity by incision of the membrane. A few drops of the 5 per cent. solution were allowed to run down into the meatus and then to remain in contact with the membrane for five minutes. The excess was then mopped out, an incision was made behind and below the handle of the hammer, and the contents were evacuated. There was no pain whatever during the operation nor were there any unpleasant after-effects.

The next case was of particular interest. A boy, aged 14 years, came to the dispensary suffering from a suppurating left ear. The meatus was found to be full of granulations. After drying the meatus a few drops of the 5 per cent. solution were instilled as before and the outermost granulation was removed without pain. On the next occasion the same solution was applied, but although the pain in extracting this granulation was slight it was not quite annulled. On the third occasion a 10 per cent. solution was instilled, but with no better result than at the second sitting. This time, however, I observed that after the application of the solution to the granulations there was a thick white deposit over the surface of the granulations and on the floor of the meatus which was certainly not present before the drops were instilled. After some consideration I came to the conclusion that this white deposit was due to the precipitation of the albuminous constituents of the discharge, associated possibly with the precipitation of the anilin oil, owing to an excess of water in the parts with which the solution came in contact. Whether the explanation was right or not I took measures to prevent, as far as possible, the same contingency the next time on the assumption that this deposit prevented the proper penetration of the fluid. On the fourth occasion therefore the ear was syringed out very thoroughly with warm water which did not contain any antiseptic as this might precipitate albumin. The parts were then thoroughly dried, the process being completed through the speculum, so that all traces of the discharge and the water syringed into the ear were removed. A few drops of the 10 per cent. solution were then allowed to run down into the meatus. In five minutes' time the excess of the fluid was mopped out, when it was found that a little of the white deposit had again appeared but was much less in amount than on the preceding occasion. It was mopped out and the granulation was removed with a snare, this time without any pain at all. After the removal the patient felt a little giddy for a few minutes, but this condition rapidly passed away and he returned directly to his work. There was no palpitation or nausea.

Another interesting case was that of an acute middle ear catarrh. The patient was a man in middle life who came suffering from deafness and pain in his right ear, the result, as he thought, and probably correctly, of a severe cold or possibly of a mild attack of influenza. The membrane was red and bulging and the handle of the hammer was hardly distinguishable. The 10 per cent. solution was dropped in in the usual way with the side of the head resting on a table and the affected ear uppermost and he remained in this position for six or seven minutes. At first there was a slight burning sensation, but this passed away as the drug took effect and the membrane was incised without any pain at all. This was, in a sense, a good test case, for although the pain caused by the acute inflammation was not of that extreme description which is often associated with acute middle ear catarrh such as may occur in the course of scarlet fever, yet the drum membrane was acutely inflamed. In spite of this, however, the solution penetrated the membrane and both abolished the pain of the disease and prevented that which occurs when the membrane is incised and which it is to be remembered is little short of agony when the parts are in a state of acute inflammation. Now such a condition of anæsthesia is never obtained by the aqueous solution of cocaine, and the operation, if it is to be painless, must be done under a general anæsthetic. The importance of the matter is manifest when we remember that patients suffering from acute infectious fevers are not in the best condition for general anæsthesia, and it is just in these infectious diseases that painful acute catarrh of the middle ear is so apt to occur.

Another class of cases in which I have found this means of producing anæsthesia useful is that in which there are a number of granulations springing from the mucous lining of the tympanum and having broad pedicles which do not permit of their removal by the snare. In these cases it is of great importance to cleanse and dry the parts very thoroughly before putting in the solution. The drops are

then instilled and allowed to remain for a period of from five to 15 minutes, after which the granulations may be removed painlessly in most cases by scraping with the sharp spoon. If the granulations are tougher than usual there may be a little pain, but it is insignificant and far less than that which occurs after using the aqueous solution of cocaine or even the drug in its pure dry form.

There are, however, certain cases in which it has not been possible to obtain complete anæsthesia by the means above described. I have only had two such cases out of the large number in which the method has been used. In both these cases the tympanic membrane was thickened, white, and dense, the result of sclerotic processes in the middle ear which had been in progress for 15 years in one case and for 11 years in the other. The 10 per cent. solution was employed in the way described as being successful in all the other cases, but on incising the membrane the pain, though not so severe as it would have been without an anæsthetic, was still considerable. Thus it would seem that the extremely dense thickened membranes which so often are the result of sclerotic processes in the middle ear offered great resistance to the penetration of fluids even of such a diffusible nature as the solution of anilin oil and rectified spirit. This difficulty has to a certain extent been overcome by using a solvent composed of anilin oil and absolute alcohol, as in the following formula: 10 parts of cocaine, 30 parts of absolute alcohol, and 70 parts of anilin oil (pure). This solution penetrates a dense membrane better than does the one containing rectified spirit, but it is obviously not so suitable for general use on account of the burning pain which it may cause in cases in which there is a perforation of the membrane.

While carrying out this investigation I was struck by the beneficial effect which the solutions seemed to exercise in cases of suppurating catarrh of the middle ear. So much was this the case that I tried the effect of treating some of the more obstinate cases with a solution consisting of equal parts of rectified spirit and anilin oil without the cocaine. The patients were instructed to cleanse and dry the ear thoroughly and then to instil half a drachm of the solution into the affected ear in the usual way without subsequent syringing. This was done once, and sometimes twice, daily, and I found that a cessation of the suppuration was brought about in several cases which had discharged for a long time in spite of the use of boric acid and insufflation and treatment by pure rectified spirit. I do not wish to be understood as advising the employment of this in preference to the older methods of treating suppurating middle ear disease by boric acid powder and rectified spirit. All treatment of these affections is largely tentative, however, and I can strongly advise a trial of the line of treatment just described when the older methods have failed.

An interesting effect which the anilin oil produced on the membrane was the peculiar transparency which it gave to the latter. Thus, in a healthy ear the long process of the incus, the head of the stapes, and the round window were very faintly outlined before the solution was instilled. But when the ear was examined after the instillation these parts stood out with much greater clearness. This effect is best brought about by using a solution containing a large proportion of anilin oil and a small proportion of spirit; indeed, the pure oil produces the effect very well, but it requires a long time. Unfortunately, this clearing effect can only occur in membranes of normal thickness or less, at least within any reasonable time. Membranes which have undergone thickening and condensation cannot be rendered properly transparent. Now it is just in such cases that valuable information might be gained concerning the condition of the tympanic mucous membrane, the fenestra rotunda, and the parts adjacent to the stapes. Investigations are still being carried on in regard to this subject, and I hope to find before long some agent which will fulfil the purpose somewhat better than anilin oil.

In conclusion, it might be well to indicate shortly the theoretical considerations which led to the results described above. This is important because if they are kept in mind the surgeon may be able by various artifices, which a little imagination and a knowledge of elementary physical laws will suggest, to obtain the result he desires when a blind rule-of-thumb method of procedure has not been able to bring about this result.

To effect penetration through the outer layers of the tympanic membrane dehydrating agents are the most suitable. By abstracting the water from the tissues the latter contract and the fluid passes through the interstices produced by this contraction into the deeper layers until it reaches the nerve-terminations in the innermost layer. Both alcohol and anilin oil are agents of this description, and for general purposes a solution composed as follows is best suited for the production of anæsthesia: five or 10 parts of cocaine hydrochlorate, 50 parts of dilute alcohol, and 50 parts of anilin oil. This solution is equally suitable for operations on the tympanic membrane, on granulations, or for the removal of ossicles. In the few cases in which we desire to operate upon a dense thickened membrane the penetrating power of the solvent must be increased. This is best done by using absolute alcohol in place of rectified spirit and increasing the proportion of anilin oil as shown in the formula above.

Further, the laws of osmosis must be kept in mind. Therefore in order to effect penetration a large proportion of the solution should be used. If this be not done osmotic equilibrium is soon established and penetration will cease. In practice I always fill the external meatus with the fluid and I have never seen any serious effects of cocaine poisoning by so doing. The worst that has occurred has been a trifling giddiness that passed off in the course of not more than five minutes. Nausea was noted in one case but it did not occur until more than two hours after the patient had left the dispensary, and as she was subject to such attacks it is very doubtful if the cocaine was to blame. Palpitation has not occurred in any of the cases.

The rendering of the membrane transparent depends, of course, upon the laws governing the refraction and reflection of light. In ordinary circumstances the indices of refraction of the various constituents of the membrane are of very different magnitudes and as these different constituents are in close juxtaposition there is great reflection and dispersion of the light. By infiltrating the tissues with the anilin oil they all come to possess the same index of refraction, or approximately so, and light penetrates the membrane much more easily. To effect this purpose the oil should be mixed with as little alcohol as possible, though of course the process of penetration takes a longer time. Other substances might be tried for this purpose, such as clove oil and glycerine, but I have not carried out investigations in this direction very far and cannot speak with any degree of certainty in the matter.

The beneficial effect which anilin oil seems to exercise upon suppurative affections of the middle ear is probably due to its power of extracting water from the tissues, the same principle in fact, as that to which rectified spirit owes its value. Anilin oil dehydrates more slowly, however, and is also more slowly absorbed; further it is not so volatile and its effect is less violent, but lasts longer. In practice it will be found that the mixture of equal parts of anilin oil and spirit is very suitable. 10 or 15 minims may be dropped into the ear and left there in the usual way once or twice daily. Various antiseptics may be dissolved in the solutions, but they do not seem to do much good and some of the more powerful ones may do harm. Anilin oil seems especially indicated in cases where there are cholesteatomatous masses and much débris. It softens these masses and aids in breaking them down probably by its great power of dissolving fats and oils.

The method of producing local anæsthesia described in this paper is of course applicable to other mucous surfaces. I have used it for throat work, and although there is at first a slight burning sensation the subsequent anæsthesia is more complete than with the aqueous solution. A 5 per cent. solution is quite strong enough for throat work and owing to the large surface for absorption I never use it stronger. Another useful solution in throat work is a 5 per cent. solution in equal parts of glycerine and rectified spirit.

I am indebted to Professor Stockman for some interesting facts concerning the pharmacology of anilin oil. Of these the most important is that the medicinal dose is 7 minims. Care, therefore, should be taken that not more than this amount may be absorbed, though in the ear such a contingency is very unlikely.

Glasgow.

TIVERTON SEWERAGE SCHEME.—At the meeting of the Tiverton Town Council held on April 9th it was stated that the sanction of the Local Government Board had been obtained to borrow £5500 for sewerage and sewage disposal works.

ON BACKACHE AS A SYMPTOM OF RECTAL DISORDER.[1]

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WHEN my friend Mr. Alfred Kirby honoured me with an invitation to read a paper before your society it occurred to me that it would be more profitable if I were to address you on some topic of general interest rather than on some obscure disease or unique operation, the only possible interest in which would centre in the fact that it was a rarity. This, then, must be my excuse for venturing to introduce to your notice such a common-place ailment as backache with the hope, moreover, that I may be able to show to some of you at any rate an old friend in a new guise, and possibly to excite fresh interest in a symptom, the constant reiteration of which must have become to many of you exceedingly wearisome.

The word "backache," when used in a general sense, would naturally include any and every ache or pain referred to the posterior surface of the trunk. But in medical parlance, I take it, this word has come to be used in a somewhat technical sense and to be restricted to pain occurring at or below the level of the loin. For my present purpose I propose to limit its meaning still further and to define it as any morbid sensation referred to that portion of the back which corresponds to the posterior surface of the sacrum. With this symptom you must all be perfectly familiar. Indeed, so common is it that in all probability hardly anyone here present completes his daily round without having heard it made the cause of complaint by one or other of his patients. And yet I have good reason to believe that the importance of this symptom is frequently underestimated and that its true significance is often overlooked. Were it not for the fact that this symptom gives rise to immeasurable distress its very commonness should render it worthy of our careful consideration and investigation, for it is superfluous on my part to remark that the more common the ailment the greater will be the number of sufferers seeking relief, and that in reality more good is attained by the relief of a score of people suffering from some trivial but troublesome complaint than by the relief of one suffering from some obscure yet serious disease.

In considering the cause of pain referred to any part of the body it is first of all necessary to consider the nerve-supply of the part affected and then to ask oneself the question how a stimulus, directly or indirectly applied to the nerve terminals of the part, can act as a source of irritation and a cause of pain? Now it is quite clear that the stimulus which evokes response in the peripheral nerves of any part may be either central—i.e., having its origin in the brain or spinal cord—or peripheral. In the latter case the stimulus may be direct or indirect—i.e., it may be applied to the terminal fibrils of the nerves implicated or it may be transferred to these through neighbouring nerves by reflex action from a distance. For the present I do not propose to take into consideration either central or direct peripheral causes, but to confine my remarks to reflex causes; and in order the better to appreciate these I would ask you for a moment to allow me to refresh your memory with regard to the nervous anatomy of the parts under consideration.

According to Kocher and other well-known authorities on cutaneous nerve distribution the parts covering the back of the sacrum are supplied with sensibility by the terminal filaments of the posterior primary divisions of the fourth sacral nerves. You will doubtless remember that the anterior primary divisions of these nerves divide into two branches, the larger of which again splits up into branches which course forward through the pelvis towards the base of the bladder, mingling as they go with branches of the pelvic sympathetic plexus. Some of these pass upwards on the walls of the bladder; others pursue a similar course on the walls of the vagina, a few reaching the uterus; others, again, to which I wish especially to direct your attention, are distributed to the lower part of the rectum. Passing through the space between the two sphincters they break up into filaments, some of which pass downwards to be distributed to the skin of the anus, while others pass upwards to be distributed to the mucous membrane of the anal canal and rectal ampullæ. Theoretically, then, one would expect to find backache frequently associated with derangement of the pelvic organs, and such indeed turns out to be practically the case.

In the minds of most of us there is no doubt a tendency to associate together backache and uterine disorder, and when a woman comes to us complaining of backache we instinctively think of the uterus as the organ most probably at fault. But, although it is true that uterine derangement and backache are frequently associated we should always be on our guard against rashly assuming that their relationship is one of cause and effect. My own experience is that these two conditions are not nearly so frequently interdependent as is usually supposed. Indeed, my conviction on this point is so strong that whenever a case presents itself in which these two conditions co-exist I make it a rule, while admitting their possible inter-dependence, to be sceptical about this relationship. The same remarks apply with equal force to backache associated with functional derangement of the bladder. This brings me to the point which I wish especially to emphasise this evening—viz., that backache is frequently due to reflex irritation having its origin in the rectum, and that even when it is associated with symptoms referable to the other pelvic organs, the bladder or the uterus, the rectum will not infrequently be found to be the organ primarily at fault. The following brief *résumé* of an actual case well exemplifies the condition to which I particularly wish to direct your attention.

CASE 1.—A man, aged 39 years, came to me complaining of a dull aching pain at the bottom of the back (over the sacrum) which came on usually after his lunch and persisted for the rest of the day, materially interfering with his capacity for work. He presented features of a type which I shall presently endeavour to describe, and had for the past month been sitting day by day, week in and week out, at his desk, attending to urgent and anxious business. He stated that his bowels were regular, for although of late there had been a tendency to constipation he had managed to keep his bowels acting daily by purgatives. On passing my finger into the rectum I found it empty except for a hard fæcal nodule which was just within reach of the finger tip anteriorly. This and two others, all of which bore evidence of prolonged residence within the bowel, were removed by an enema, and under the influence of a saline purge each morning coupled with two-grain doses of quinine twice daily the pain rapidly vanished.

Cases of this type I could multiply indefinitely; and no doubt many of you will have observed, in common with myself, that backache is not infrequently a cause of complaint among men. In such cases of course the question of the uterus as a causative factor can at once be put out of court. In my experience, as I have just hinted, the man who comes complaining of backache usually conforms to a certain type, which it is important to recognise, for it is often the recognition of this type which is instrumental in directing attention to the true state of affairs. Usually endowed with considerable mental activity and conscientious often to the last degree, his mental capacity far outstrips his physical strength. He is capable, nevertheless, if put to it, of getting through a considerable amount of hard work and of enduring a considerable amount of mental overstrain. He is in a word wiry. But let such a one become overworked and overworried, let him, in other words, draw largely on his reserves of nervous energy, and he soon becomes nervous, irritable, morose, and generally out of sorts. This change in his condition is more noticeable to his friends than to himself. His digestion becomes deranged, but although he is cognisant of the fact he pays little heed thereto, for it is not his great trouble. His bowels, he will tell one, are regular, or, if not, that there is a tendency to constipation which he relieves perfectly by a judicious use of purgatives. If the stools be examined they will be found to contain scybalous masses with an admixture of gelatinous tenacious mucus of which in all probability he has no knowledge. But his chief cause of complaint, the ailment which worries him to the exclusion of all others and on which for the time being his whole mental energy is concentrated is a dull weary aching pain over the sacrum, sometimes continuous, sometimes intermittent, which prevents him concentrating his mind on

[1] A paper read before the New Cross Medical Society on March 7th, 1900.

his work at a time when it is important that he should give it his best and undivided attention. If the trouble be taken to analyse the group of symptoms which I have just endeavoured to portray it will be found that the only truly objective sign in the whole lot is the passage of scybalous stools and viscid mucus. This sign is the keystone of the whole situation, and to my mind it is of no doubtful significance—its presence points unmistakeably to chronic rectal catarrh. Having arrived so far, it is probably safe to conclude that the dyspeptic symptoms are due to catarrh of the stomach and that there exists, in fact, a chronic catarrhal condition of the whole gastro-intestinal tract. The next question which arises is, How is this catarrh brought about? I believe that it is mainly in the following way. Nervous depression causes diminution of functional activity generally, in which the cardio-vascular system shares, causing a tendency to general venous congestion, and especially in the great venous system connected with the liver—the portal vein and its tributaries. This, in turn, working backwards causes congestion of the whole gastro-intestinal tract, and in process of time a catarrhal condition is set up with a tendency to the secretion of viscid tenacious mucus and the formation of hard scybalous fæces. These masses, passed on from the colon, sometimes get lodged in one of the rectal folds or just within the rectal ampulla and there act as irritants to the nerve terminals which are distributed to the lower end of the rectum. This source of irritation often manifests itself by reflex action in the form of pain or some other morbid sensation referred to the posterior surface of the sacrum. The presence of these scybalous masses can easily be confirmed by anyone who will take the trouble to pass his finger into the rectum.

At one end of the line then there is worry, which may be considered the prime factor, and at the other end worry—on account of the pain—as the ultimate factor in the case. As intervening factors there is the chronic catarrh, which prevents the patient from absorbing and assimilating a sufficient amount of nutriment to recoup his already jaded nervous system, and the formation of scybalous masses which, by the irritation which they cause, tend still further to jade the already wearied nerves. Thus a vicious circle is created which, unless the true condition of affairs is recognised, it is very difficult to break. Once the condition of affairs is diagnosed, however, the indications for treatment are self-evident. These obviously are: (1) to remove the scybalæ; (2) to secure an efficient and regular action of the bowels; (3) to relieve the catarrh; and (4) to improve the general health.

For the relief of the catarrh I know of no more satisfactory remedy than ichthyol in doses of from five to ten grains or more night and morning. It relieves the congestion, improves the appetite, and stimulates peristalsis. Quinine in two-grain doses will also in some cases be found beneficial. Theoretically, no doubt, bearing in mind the prime cause, a complete cessation from work and a change of scene and air would be indicated; but usually the necessity for sticking to business which was the prime factor in the case still exists, and it is very seldom that the patient can be induced to relinquish his calling. Even if he could be persuaded so to do, it is a great question whether the anxiety over business neglected would not be a greater evil than the mental strain caused by a moderate amount of business done. Practically, therefore, I think that it is wise to steer a middle course, advising the patient to curtail his hours of work, to spend as much time as possible in the open air, to indulge in a moderate amount of exercise, to partake of as much good plain food as he can digest, and, in short, to adopt regular habits of living generally.

Let it not be thought, however, that I wish to convey the idea that such cases occur exclusively among men; on the contrary, they occur with equal, if not greater, frequency among women who, allowing for differences in habits, mode of life, and environment, conform mainly to the same type. My only reason for laying special stress on the occurrence of such cases among men has been that I was anxious to eliminate all idea of the uterus as a causative factor. But the aspect of such cases is not always quite so simple, and the pain or discomfort is not always due to what may be termed functional causes, but in many cases may be traced to more or less serious organic disease—e.g., piles, ulcer, and cancer—as exemplified by the following cases.

CASE 2.—Some time ago I was consulted by a young married woman whose only cause of complaint was a severe aching pain at the bottom of the back which tormented her continuously. This pain she had borne patiently for many months until about two months previously to my first seeing her so bad had it become that, other remedies having failed, she had submitted to excision of the coccyx but without relief. On digital examination of the rectum a circular ulcer of about the size of a sixpenny-piece was felt just within the rectal ampulla posteriorly. To make a long story short, *pari passu* with the healing of the ulcer the pain diminished and finally disappeared.

In this case a simple investigation in the first instance would have revealed the true cause, would have saved the patient months of suffering, and would have prevented a needless operation.

CASE 3.—About two years ago I saw a woman, aged 55 years, who had unmistakeable signs of rectal cancer which was inoperable. A colotomy prolonged her life for some 18 months. This patient told me that for some six months before her symptoms definitely directed attention to the bowel her only cause of complaint was a continuous dull wearing pain at the bottom of the back.

This I believe to be quite a common occurrence in the early history of rectal cancer. The only symptom for some time is backache. What the ultimate result of this case would have been had it been diagnosed in its early stages it is, of course, impossible to say, but when we reflect on the brilliantly successful results of prompt surgical treatment in the early stages of rectal cancer and compare these with the hopelessly miserable condition of the patient when the disease has been allowed to drift on into the later and inoperable stages it is reasonable to suppose that things might have been different. The lesson I think we should all learn from such cases is that when a patient comes to us complaining of backache we should not treat the symptom in a careless or perfunctory manner, putting it down to weakness, rheumatism, and so forth; that we should not rest content until every possible cause of the pain has been carefully investigated; and that no investigation should be considered complete until the state of the rectum has been ascertained.

So much then for cases of rectal disorder where backache is practically the only symptom and where we have little else to guide us to the true state of affairs. I should like now to refer very briefly to a class of case where backache is associated with other direct symptoms which, unless properly understood, are likely to prove very misleading. It is not uncommon to find patients complaining of backache complicated by bladder disorder, as evidenced by frequency of urination or retention of urine; or by (?) uterine derangement, as evidenced by vaginal discharge. These cases, unless he is warily on his guard, form veritable pitfalls to the practitioner, as the following cases bear witness.

CASE 4.—A man, aged 39 years, who was otherwise in the best of health, came to me complaining of a sense of weakness at the bottom of the back and irritability of the bladder of about three weeks' duration. He assured me that the bowels were acting regularly, yet under the influence of an efficient purge he passed a large watery stool containing several scybalous masses the colour and consistence of which betokened prolonged residence within the bowel. The highly satisfactory result of this method of treatment was effectually to relieve his symptoms.

CASE 5.—I was sent for in hot haste to see a woman, aged 45 years, who was suffering from inability to pass urine and who in consequence was in much distress. She told me that she had suffered more or less from difficult urination for about a month and had been treated for this disability but without success. She further told me that this symptom had been accompanied by backache. So far from suffering from constipation she informed me that recently there had been a tendency to diarrhœa. Thinking that the urinary retention might be caused by a retroverted uterus I made a vaginal examination, and to my surprise found that cavity rendered almost impenetrable by what turned out to be an accumulation of fæces in the rectum. The removal of this by copious injections of soap and water completely relieved the symptoms.

In either of the above cases it would have been very easy to have misinterpreted the true state of affairs and to have fallen into the trap of treating the bladder instead of the rectum, thus leaving the main cause untouched and the patient consequently unrelieved. This error, as I have incidentally remarked, actually occurred in one of the cases. It is always well, therefore, in endeavouring to unravel cases similar to those which I have just very briefly narrated, to

bear in mind the fact that any source of irritation having its origin in the lower end of the rectum is liable to cause functional derangement of the bladder. If this fact be borne in mind the practitioner will seldom go astray.

Before concluding I should like to say a few words on that very common class of case where backache and leucorrhœa are associated together as prominent symptoms, a good example of which is the following.

CASE 6.—A young unmarried woman, aged 28 years, consulted me for backache associated with leucorrhœa of some six months' duration. On making a vaginal examination I noticed two external piles at the margin of the anus, and finding the uterus normal I forthwith directed my attention to the rectum, an examination of which revealed internal as well as external piles. When informed of the true state of affairs the patient vouchsafed the information that she had suffered from constipation and pain on defecation for some time past—a valuable piece of evidence which she evidently intended in the first instance to keep to herself. The upshot of the case was that the piles were removed with a speedy cessation of the symptoms.

In connexion with this case I would like to point out that in any case of leucorrhœa it is always well to bear in mind the fact that reflex irritation having its origin in the rectum may be, and often is, a determining factor and that the source of this irritation will frequently be found to be a crop of piles. I have repeatedly met with such cases and it is abundantly clear that no amount of tonics and astringent injections will cure them so long as the main cause remains untouched.

To sum up, the chief points which I have endeavoured to substantiate this evening are the following: (1) that backache is not only a common but also a very important symptom; (2) that whether it be practically the only symptom present or whether it be associated with other more or less definite symptoms it is well worthy of a careful and searching investigation; and (3) that no investigation should be considered complete until the condition of the rectum has been ascertained.

In conclusion, I have to thank you for your kind attention and to express the hope that I have not wearied you by what of necessity has been a somewhat fragmentary discourse. If so my excuse must be that when one has paid special attention to any particular subject one is apt to think that others also will take an equal interest therein.

Beaumont-street, W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON THE INFLUENCE OF THE TEMPERATURE OF LIQUID AIR ON BACTERIA.[1]

BY ALLAN MACFADYEN, M.D. EDIN.,
AND
S. ROWLAND, M.A.

IN a previous communication to the Royal Society[2] it was shown that no appreciable influence was exerted upon the vital properties of bacteria when exposed for 20 hours to the temperature of liquid air (– 183° C. to – 192° C.). Further experiments have since been made in which the organisms were again exposed to the temperature of liquid air for a much longer period—viz., seven days.

The organisms employed were bacillus typhosus, bacillus coli communis, bacillus diphtheriæ, bacillus proteus vulgaris, bacillus acidi lactici, bacillus anthracis (sporing culture), spirillum choleræ Asiaticæ, staphylococcus pyogenes aureus, bacillus phosphorescens, a sarcina, a saccharomyces, and unsterilised milk. Instead of being exposed as formerly on the actual media in which they were growing the organisms were submitted to the cooling process in the form of a broth emulsion in hermetically sealed fine quill tubing. This allows of complete immersion and effects a considerable economy in the amount of liquid air used, besides greatly facilitating manipulation. The liquid air was kindly furnished by Professor Dewar and the experiment was conducted in his laboratory. In the course of the experiment the loss by evaporation of the liquid air was made up by adding fresh portions from time to time. In this way the temperature of about – 190° C. was maintained uninterruptedly through the whole period of the experiment. At the same time considerable care had to be taken in conducting the first cooling in order to avoid fracture of the quill tubes. A preliminary cooling was therefore effected by means of solid CO_2. After the expiration of a week the tubes were removed with cork-tipped forceps and placed in a strong glass vessel till thawing was complete. The tubes were then opened and the contents transferred to suitable culture media. In each case a direct microscopical examination was made to detect any possible structural changes.

It is a remarkable fact that, notwithstanding the enormous mechanical strain to which the organisms must have been exposed, a strain far exceeding in amount any capable of being produced hitherto by direct mechanical means, not the slightest structural alteration could be detected. The subcultures made at the conclusion of the experiment grew well and in no instance could any impairment in the vitality of the organisms be detected. In one or two instances only growth was slightly delayed, an effect which might have been due to other causes. The photogenic bacteria grew and emitted light, and the samples of milk became curdled.

The above experiments show that bacteria can be cooled down to – 190° C. for a period of seven days without any appreciable impairment of their vitality. It has not yet been possible to undertake the experiments with liquid hydrogen.

[1] A paper read before the Royal Society on April 5th, 1900. Communicated by Lord Lister, P.R.S.

[2] THE LANCET, March 24th, 1900, p. 849.

A NEW METHOD OF TREATING FEMORAL FRACTURES IN THE INFANT.

BY JOHN D. RICE, M.B., B.CH. R.U.I.

ON August 24th, 1899, I saw a newly-born infant with a fracture in the upper third of the right femur, all the classical symptoms being present. As the mother did not intend to nurse the child—and under the circumstances this would have been well-nigh impossible—I had the child removed to the Eltham Cottage Hospital, where I proceeded to deal with the injury. For several days I persisted with the ordinary methods for placing the fragments at rest, but found none of them gave the desired result. It then occurred to me that if a child could live in utero with its thighs flexed on the abdomen it might equally well do so ex utero; accordingly I flexed the injured limb on the abdomen, turning the foot over the shoulder of the same side (having previously placed boric acid and wool between the opposed surfaces). I then bandaged the limb with a washed flannelette bandage firmly to the abdomen and thorax, extension being kept on the foot. I raised the head of the cot six inches, and carried, as counter-extension, a loop of soft bandage round the ankle and fastened the end to the rail of the cot; a sandbag wrapped in flannel placed on each side of the child prevented lateral motion. The progress of the case was uneventful. The child ceased crying, fed and slept well, and was discharged in three weeks with perfect movement in the limb and no shortening, nor is there any now (April 6th).

In a child a little older it might be advisable to aid the body-weight extension by using a small weight attached to the sides of the buttocks by a large loop of adhesive plaster and a stirrup sufficiently large to avoid being soiled by the evacuations.

New Eltham, S.E.

DISLOCATION OF THE EPIPHYSIS OF A METACARPAL BONE.

BY E. KEN HERRING, M.R.C.S. ENG., L.R.C.P. LOND.,
HONORARY SURGEON, MOOROOPUA HOSPITAL; LATE SENIOR RESIDENT SURGEON, BALLARAT DISTRICT HOSPITAL.

THE skiagram which I send with this, showing the extremely rare condition of dislocation of the epiphysis of a

metacarpal bone, will no doubt be of interest to the readers of THE LANCET. The history of the case was as follows.

A boy, aged 10 years, was brought to the Ballarat District Hospital as an out-patient on Jan. 1st, 1897, on account of a lump on his hand. The lad had fallen out of a tree six or seven weeks before and he said that he fell on his outstretched right hand. The next morning he complained of pain in the hand and the mother says that the lump was there at that time. On examination there was found on the

palmar surface of the right hand over the neck of the first metacarpal bone a small, rounded, hard nodule of about the size of a pea. This was not moveable from the metacarpal bone, which appeared to be normal. The finger could be flexed and extended freely and there was no pain on pressure, but on closing the fist the knuckle was not quite so prominent as were the others. The treatment consisted in an incision by a tenotome, in separation by a stronger instrument (as the tenotome could not cut through the hard adhesions), and in replacement by manipulation, and in the use of a pad and splint. The nodule, however, could not be kept in place and had finally to be removed. As a parenthesis I may add that the case was diagnosed as one of exostosis, and this was done by several medical men who saw it. The rays diagnosed it for us. The skiagram was taken by Mr. J. Treloar, the skiagraphist to the Ballarat District Hospital.

Ballarat.

THE AFTER-CARE ASSOCIATION.—The report of the council for the After-care Association for Poor Persons Discharged Recovered from Asylums for the Insane has just been issued and shows that the work of the association has again greatly increased during the past year and in the last five years has nearly doubled. The proportion of cases satisfactorily started in life has also largely increased and the reports received from time to time of many helped in past years are highly satisfactory. During the past 12 months there were 222 cases before the council, as compared with 186 in the same period in 1898. This is by far the largest number ever brought under the notice of the council in one year. Of these 145 were women and 77 were men. The total subscriptions, donations, and contributions for maintenance in 1899 amounted to £549 8*s.* 1*d.*, as compared with £652 12*s.* 3*d.* in 1898. During the past year Sir Samuel Wilks, Bart., M.D. Lond, has been elected one of the vice-presidents of the society.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Procemium.

ROYAL HOSPITAL FOR CHILDREN AND WOMEN, WATERLOO-ROAD.

A CASE OF PYONEPHROSIS WITH IMPERFORATE RIGHT URETER (CONGENITAL).

(Under the care of Mr. A. MARMADUKE SHEILD.)

THE pathological condition of the right ureter in the following interesting case is certainly suggestive of a congenital origin, but it is a little difficult to explain the presence of pus in the corresponding kidney. A bacteriological examination of the pus might have afforded some clue as to its origin. If the ureter were congenitally impervious the pyogenic organisms must have been brought to the kidney by the blood stream, and cannot have entered by the usual channel through the urethra and bladder. For the notes of the case we are indebted to Dr. F. A. H. Michôd, resident medical officer.

A male infant, aged seven months, was admitted into the Royal Hospital for Children and Women, Waterloo-road, under the care of Mr. Sheild. The child had been ill for the previous three weeks, the illness having commenced with diarrhœa and vomiting; during the week before admission he had had absolute constipation. The child had been "delicate" all his life but had not been definitely ill until the present illness. The family history was unimportant.

On admission the boy appeared to be fairly well nourished; the complexion was somewhat sallow, there were no teeth, and the tongue was dry but not furred. He did not appear to be in pain. The abdomen was considerably distended; there was no vomiting or collapse. On the right side of the abdomen, extending from the crest of the ilium to the costal margin and extending about one finger's breadth across the middle line, there was a large, hard, irregularly shaped mass, firmly fixed, and apparently solid; the bladder could not be thoroughly made out owing to the abdominal distension. From the left and lower portion of the tumour there were some irregularly shaped masses extending down into the pelvis; the tumour was dull all over on percussion and above; the dulness merged into the liver dulness. There was some changing dulness in the left flank. Per rectum a mass could be felt high up in front diminishing the size of the lumen.

While the child was in the hospital his bowels were freely opened by enemata and laxatives; he took his food well. Suddenly, three days after admission, he had a convulsion and died. The urine was acid and contained a trace of albumin.

Necropsy.—On opening the abdomen some ascitic fluid was discharged and the large mass was found to be the right kidney enlarged to the size of a cocoa-nut. The right ureter ended in a fibrous band, the upper part of the ureter being greatly enlarged (from one and a half inches to two inches in circumference). It was found to coil downwards into the pelvis which it almost completely filled, pressing on the rectum and the left ureter, which, with the left kidney, were also enlarged and hyperæmic. The right kidney and ureter were found to be filled with thick yellow pus, the kidney being absolutely disorganised. The bladder was high up but otherwise normal, and no opening for the right ureter could be found, though the right vesical orifice was marked by a dimple. There were no bands or matting of the intestines and no enlarged glands were found. The other organs were normal and there was no sign of tubercle anywhere.

Remarks by Dr. MICHÔD.—The point of interest in this case is its rarity and the fact that the kidney and ureter were filled with pus, the cause of which was not evident. On examining the literature on the subject I cannot find a

similar case. Mr. Hurry Fenwick[1] reports a case of atresia of the vesical orifice of the left ureter (? congenital), "removed from a body of a man, aged 60 years. Right kidney was enlarged but showed no sign of disease; left was the size of a goose's egg surrounded with fat, and a section was seen to be completely transformed into a stiff, multiloculated sac, containing a white opaque fluid, glistening with cholesterine crystals. Both the walls and the septa were partially calcified and the inner surfaces coated with phosphate of lime. The corresponding ureter was transformed into an impervious fibrous cord, and on examining the bladder the left ureteral orifice was found to be absent."

I am enabled to record the above case by the kind permission of Mr. Sheild.

SOUTH DEVON AND EAST CORNWALL HOSPITAL, PLYMOUTH.

A CASE OF OVARIAN CYST COMMUNICATING WITH THICKENED GALL-BLADDER CONTAINING A SOLITARY CALCULUS.

(Under the care of Mr. R. H. LUCY.)

IN the case recorded below the connexion between the cyst of the ovary and the gall-bladder was in all probability due to a localised peritonitis set up by the gall-stone. These adhesions are rarely met with, especially at the present time, when most ovarian cysts are operated on long before they become so large as to reach the gall-bladder. Further, for the production of a communication between this cyst and the gall-bladder it is necessary that a gall-stone should be present capable of giving rise to an adhesive peritonitis. From a consideration of the unlikelihood of these conditions co-existing the rarity of the following case is very obvious.

A widow, aged 60 years, was seen by Mr. R. H. Lucy with Mr. J. P. Stephens Ward on March 2nd, 1899. The patient was extremely ill, with a temperature of 102° F. She was vomiting bile, the abdomen was distended and tympanitic, and there was a history pointing to inflammatory trouble in the neighbourhood of the gall-bladder suggestive of ulceration of a biliary calculus into the peritoneal cavity or bowel. The stools were examined without finding a calculus nor was there any jaundice. Under belladonna, rest, and dieting the acute symptoms subsided. It was then ascertained that she had felt pain in the hepatic region for six or seven years and that she had had prolapse of the uterus for the previous two years. The present attack began in the middle of February with pain across the bowels, followed by vomiting of dark-green offensive fluid and profuse sweating; the bowels were only relieved by enema after three days' constipation.

The patient was admitted into the South Devon and East Cornwall Hospital under the care of Mr. Lucy on April 12th, 1899, and was found to have a cystic swelling occupying the centre of the abdomen. This evidently had a hepatic as well as a pelvic connexion, though a corona of tympany separated the tumour from the liver edge and the right kidney. Pain was complained of in the region of the pylorus and a hard nodular swelling could be felt there; the uterus was drawn up and the cervix was tilted, pointing to the right side of the pelvis.

On May 4th, 1899, under Tait's mixture, the above signs were confirmed. The abdomen was opened in the mid-line just below the umbilicus and a grey cyst was exposed which on tapping yielded several pints of turbid bile-stained fluid, containing buttery lymph, flakes, and curds. The smooth lining looked like peritoneum, as if the fluid was extra-peritoneal, but it proved to be the anterior wall of a second smaller cyst. The collapsed cysts were peeled off the parietal peritoneum, thus entering the abdominal cavity, and further adhesions to the omentum and descending colon were dealt with until a long thin pedicle, consisting of the Fallopian tube and ovarian ligament, was traced down to the right cornu of a small uterus. After tying off this pedicle the cyst was stripped upwards and found to taper off into a thick grey cord just below the liver edge. On cutting this across a few drops of muco-pus escaped from a channel about one-eighth of an inch in diameter; the proximal part was clamped, and on turning it up was found to be the fundus of the gall-bladder tied down by vascular adhesions both to the under surface of the diaphragm and to the great omentum. It was now decided to divide the operation into two stages. The gall-bladder was therefore freed from omentum and bent upwards in the upper angle of the wound and there "excluded" by uniting the lower portion of the wound by mass sutures of silkworm-gut. The opening into the bladder was ligatured and iodoform gauze ribbon was wound round its base. On examining the cyst it was found to be fusiform and bilocular; the anterior larger portion alone communicated with the gall-bladder, the posterior and smaller cyst containing clear mucoid fluid; both had smooth linings. No trace of an ovary other than these cysts could be found on the right side. The left ovary and tube were shrunken, but were returned into the abdominal cavity. Convalescence was delayed by a troublesome cough and she left the hospital for the Pearn Home on June 22nd (the forty-ninth day). The patient was re-admitted on July 17th for removal of what was thought to be merely a useless mucus-secreting sac, for beyond a trace of bile seen on the dressings subsequently to the first operation only clear mucus exuded, and nothing could be felt by probing.

On July 22nd the second stage of the operation was done; the peritoneal cavity was entered through an elliptical incision surrounding the fistula and the gall-bladder was separated from the under surface of the liver with the intention of excising it. When drawn well up into the wound a hard, rounded body could be felt deep down and on cutting off about an inch of the much-thickened viscus a rounded, dark-brown calculus, an inch in diameter, was squeezed forward and removed, followed by a gush of bile. The lower half of the wound was then closed in two layers, while the cut edges of the gall-bladder were attached by a purse-string suture of fine silk to the transversalis fascia and peritoneum; a stout drain-tube was placed into the gall-bladder and water poured in was found to sink rapidly away. The tube was removed on the seventh day, all the sutures were removed by the fourteenth day, and the patient left the hospital on the sixtieth day after the second operation and has since been in good health.

The calculus had evidently acted as a ball-valve, for the patient gave a definite history of fluctuation in the size of her abdomen previously to the beginning of May, 1899. The ovarian fluid used to drain away *viâ* the gall-bladder, cystic and common ducts, giving rise to what was regarded as "an attack of diarrhœa." Then the abdominal swelling would increase in bulk, from bile flowing into the ovarian cyst, but never at any time (while under observation) was there absence of bile from the stools, nor was there anything more than slight jaundice. On one occasion, when first in hospital, the abdomen was nearly flat, but it rapidly increased in size before the first operation.

Remarks by Mr. LUCY.—The above condition seems to be rare judging from the absence of any record that I can trace. Mr. Cripps, I believe, has seen such a connexion, when the tapping of ovarian cysts was in vogue, and the late Mr. Lawson Tait[1] operated on a supposed parovarian cyst to find it was a hugely distended gall-bladder.

[1] Transactions of the Pathological Society of London 1885-86, vol. xxxviii., p. 30.

[1] Edinburgh Medical Journal, October, 1889, p. 315.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—A quarterly court of the directors of this society was held on April 11th, Dr. Church, the treasurer, being in the chair. Three new members were elected and the deaths of six were reported. Applications for grants were read from 48 widows, eight orphans, and six recipients from the Copeland Fund, and it was resolved to distribute £1173 10*s.* among them at the next court. A first application for a grant was made from a widow and a grant at the rate of £50 per annum was given to her. A special grant of 50 guineas was made to a widow under By-law 70. Grants were made to two orphans of £25 each towards their self-maintenance. The report of 1899 was read. The following gentlemen were nominated for election at the annual general meeting to fill the vacancies among the officers of the society: President, Mr. Christopher Heath; vice-presidents, Mr. W. H. Bennett and Mr. Manley Sims; directors, Mr. Borlase Hicks, Mr. Simmonds, Mr. L. Read, Mr. Willis, Mr. Milburn, Dr. Buzzard, and Dr. Morison. It was decided to hold the annual general meeting on Wednesday, May 30th, at 5 P.M.

Medical Societies.

HUNTERIAN SOCIETY.

Some Points in the Therapeutics of Gout.

A MEETING of this society was held on March 28th, Dr. DUNDAS GRANT, the President, being in the chair.

Dr. DAVID ROSS read a paper on Some Points in the Therapeutics of Gout. He contended that, despite extensive research, the pathology of gout remained enveloped in a cloud of theories, deduced or implied from a mass of conflicting experimental facts. Uric acid had been searched for so keenly that observers might have overlooked other quite as important causal factors. Even the late Sir William Roberts declared that he himself was getting more and more in doubt whether uric acid covered the whole field of gout. From an extensive experience with both media he denied that uric acid and its compounds behaved in exactly the same way with the so-called standard solvent as with blood serum, as asserted by Roberts. He was also opposed to the quadriurate theory and believed that the uric acid compound existed as a mixture of biurate and uric acid in loose combination and in varying proportion of the molecules. He believed that goutiness was induced by abnormal albuminous disintegration chiefly caused by deranged hepatic metabolism, and that the initial difficulty was a digestive one. He considered that uric acid was a normal constituent of the blood, hence they had to look elsewhere for the *materies morbi* of gout. While different opinions were entertained as to whether the original deposition of biurate was the cause, the accompaniment, or the result of the local affection, they still required an explanation of the gouty paroxysm. He reviewed the theories of Klemperer, Berkart, Schmoll, Kolisch, and others, and concluded that they did not possess such knowledge of the pathology of gout as would be required to formulate a scientific course of treatment. At present they had to treat the man rather than the ailment, and to adapt the diet and general regimen in every individual case. A pill of colchicum and mercury given over night and followed by a saline aperient in the morning not only improved the general condition in goutiness but very often warded off declared gout. Differing from Sir William Roberts and Dr. Luff he considered sodium salts very useful in the gouty state and could not believe that they were capable of inducing paroxysmal gout. Although they could give no adequate scientific explanation of the nature of its action colchicum was the remedy *par excellence* in acute gout. Its action was probably that of a powerful cholagogue and of a cardio-vascular depressant. While the evidence as to the efficacy of sodium salicylate was contradictory he saw no necessity for calling those cases rheumatic in which it had succeeded when colchicum had failed. Dr. Ross then described in detail the result of his experiments with piperidine, piperazine, lysidine, and urotropin as solvents for uratic deposits and concluded that piperidine was found to be the best solvent.

Dr. A. P. LUFF stated that although the composition of sodium quadriurate might be found on analysis to vary in different samples it did not destroy his faith in the existence of that body. It was a very difficult substance to prepare owing to its extreme instability. The presence or absence of pain in different cases of gout depended, he believed, upon the rapidity of deposition. It was the suddenness of the deposition which caused the pain. In his opinion the gout-producing or inducing properties of some wines and beers were due to the presence of ethereal salts which in all probability powerfully affected the metabolism of the liver and possibly of other organs. His own experience was that although salicylate of soda was of great use in rheumatic conditions it was not of use in true gouty conditions.

Dr. FORTESCUE FOX held that whilst the chemistry was still in doubt gout might accurately be called a disorder of metabolism. It was often hereditary, often brought out by changes and phases in the individual, such as the changes incident to the epoch of middle age, and often also unaccompanied by articular manifestations. He believed that alcohol in all forms tended to provoke and increase this disorder. In some cases a very minute quantity of wine aggravated all the symptoms. Elimination was the secret of successful treatment and waters and baths were only operative as they effected a gradual restoration of normal elimination. Setting aside the internal use of waters very much could be done by baths alone, as at Aix-le-Bains, in encouraging elimination by the skin. Such treatment in his experience usually produced a recrudescence of acute symptoms, a more active phase of disorder replacing the chronic phase; but this if not excessive was, he believed, of favourable augury. He anticipated that in time it would be recognised that all cases of gout should be treated by balneological methods.

Dr. GLOVER LYON pointed out the impossibility of framing a chemical method of treatment founded upon the present imperfect knowledge of the chemistry of gout. He thought that too much stress was laid on mere solvents in the removal of urates from the cartilages which, after all, were living tissues and capable of taking an active part in expelling deposits. He advocated mixed and varied diets as being the most easily assimilated.

Dr. HINGSTON FOX said that the cases of gout which came before him were mostly connected with sedentary habits and over-eating and drinking. He thought that much of the benefit of spa treatment was due to the insistance on early rising, walking in the fresh air, and regulated diet. Sydenham sent a patient to Inverness ostensibly to consult a medical man who had no existence, and on the patient's return, indignant from the long and toilsome journey, the gout had disappeared.

Dr. A. DAVIES said, as bearing on the importance of exercise quoted by Dr. Hingston Fox in his anecdote of Sydenham, it might be worthy of remark that Sir Dyce Duckworth had recently stated at a discussion respecting alcoholic insurers before the Life Assurance Medical Officers' Association, that he had yet to learn of a Highland gillie suffering from gout.

Dr. BUTLER HARRIS drew attention to the mitigating effect of collodion painted on an inflamed gouty joint. The pain was speedily relieved and the inflammation was lessened by such treatment. He had first learned the method from Dr. Vivian Poore. He remarked on the influence of other diseases in producing acute attacks of gout and instanced a case in which after several attacks of influenza the patient invariably was laid up with acute articular gout, each time in a different joint. As regards the etiology of gout he mentioned that clinically the evidence was as obscure as it was experimental. Two cases recently had come under his notice: an attack was evidently brought on by worry in the case of the first patient who was lean and ill-nourished; in the case of the second, a plethoric woman, by insufficient exercise during a long and trying winter. Both patients, it was interesting to note, were teetotalers. All one could say clinically was that the attacks were the accumulated effects of insufficient metabolism, effects of widely different origin.

The PRESIDENT was surprised to hear Dr. Luff's depreciation of the value of salicylate of soda; he prescribed it with great frequency in combination with bromide of potassium in cases of gouty cachexia or irregular gout, and found it to be of immense value in such manifestations as were apt to come under his notice. He was often guided in his diagnosis by the existence of nervous irritability, increased pulse tension, and the history of typical gouty attacks in the patient or his predecessors, especially when arthritic disturbances were excited by dietetic rather than meteorological conditions. His friend Dr. Ogier Ward had related to him a very striking instance of freedom from gout following the habitual use of cider instead of malt liquors. He thought that the vegetable acids might be more used, both dietetically and therapeutically, than at present. In Germany the acid of the apple was used in the preparation of malates and pomates.

Dr. DAVID ROSS briefly replied.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

"Return" Cases of Scarlet Fever and the Length of Infectivity of the Disease.—Simulation of Gastric Perforation.—Exhibition of Cases and Specimens.

A MEETING of this society was held on April 6th, Professor C. J. WRIGHT, the President, being in the chair.

Mr. A. E. PEARSON introduced a paper on the Infectivity of

Scarlet Fever for discussion. As an aid to diagnosis of scarlet fever and kindred diseases he urged a more frequent resort to bacteriological examination, and drew attention to Dr. Klein's reports to the Local Government Board on the micro-organism of scarlet fever. He urged that by systematic bacteriological examination in private and in hospital practice errors of diagnosis and the so-called "return case" might in a measure be prevented. The length of infectiousness of cases of scarlet fever might also be more accurately determined. Many discharged scarlet-fever patients, though having passed through a fairly long isolation period and though apparently quite well, appeared in some cases to be the cause of further dissemination of the disease. A bacteriological examination of supposed scarlet-fever throats would, in many cases, be the means of excluding diphtheria from the diagnosis. Mr. Pearson mentioned a case presenting all the signs of scarlet fever of an anginous type from which he was able to cultivate diphtheria organisms. He read extracts from Dr. Klein's reports on the subject of the scarlet-fever micro-organisms and showed several specimens of the streptococcus conglomeratus or streptococcus scarlatinæ (Klein). Mr. Pearson had made 100 consecutive cultivations for this organism and was able to demonstrate its presence in 38 cases. He was inclined to urge from a somewhat cursory investigation that this streptococcus was the specific organism of scarlet fever. Mr. Pearson then dealt with hospital "return cases" of scarlet fever. In defining a "return case" he thought a specific limit of the "interval" (or incubation period) elapsing between the infecting and infected case should be insisted on. This should not exceed a week. If longer some other cause of infection was probable. He suggested that in some cases infection remained latent in houses from which scarlet-fever patients had been removed. Several second cases admitted from the same house occurring before the return home of the first case and with a seven or eight weeks' interval had come from time to time under his notice. The percentage of "return" cases were about 1·5 per cent. to total cases admitted. The possible length of infectiousness of scarlet fever patients was next discussed. Mr. Pearson thought it unfortunate that a six weeks' isolation had become so fixed in the minds of the public as a sufficient limit. Often from his own experience (and he would draw attention again to the result of Dr. Klein's investigations) it was several months. He thought that most often the cause of infection in long cases lay in the nasal and aural cavities. Mr. Pearson drew attention to the greater persistency and more frequent occurrence of otitis and rhinitis in the winter and spring months. He thought that perhaps a chill during disinfection and, occasionally, altered conditions of life after leaving hospital tended to re-start otorrhœa and rhinorrhœa. He would increase the minimum isolation limit to eight weeks in winter and seven weeks in summer. Mr. Pearson thought that in some cases the cause might be traced to inefficient or incomplete disinfecting methods. Steam, used for clothing or bedding, when allowed to pass from a saturated to a superheated state became ineffectual. It was necessary to urge this on workmen using steam disinfectors. Again, chemical disinfectants were often wrongly used, neglecting their strengths as germicides and the relation of germicidal strength to bulk of infected matter. He suggested two exposures of infected clothing to saturated steam. Another possible cause of reinfection in previously infected houses was the disposition of householders to withhold articles from a disinfecting process which they thought might damage them. These were often brought out on the return of the patient.—Dr. SPOTTISWOODE CAMERON regarded the duration of the period of infectivity as an unknown quantity. Mr. Wheelhouse, he believed, used to speak of the period of isolation for scarlet fever as three months. There were probably cases in which there was comparatively little risk of the patient himself conveying infection at so short a period as three weeks from the commencement of the illness. There were, however, strong grounds for supposing that infection had been conveyed by patients themselves even after three months. For his own part, when asked, he was inclined to measure the duration of the infective period by months rather than by weeks. It seemed to him likely that the patient remained infective until he was well. The scarlet fever germ was probably present and capable of being conveyed in an active form until the tissues had so far recovered as to be able to destroy it. As long as there was catarrhal discharge from the nose, throat, ears, and possibly the kidneys, it was probable that that stage had not been reached. Whether the scarlet-fever germ was Klein's streptococcus, again described by Kurth as streptococcus conglomeratus, or not, did not appear to have been decided. It did seem, however, as if patients kept in the ordinary wards were liable to get their discharges reinfected. In any case he thought the proper course was to place convalescents, after a proper disinfection of nose, mouth, and pharynx as well as clothes, in an uninfected ward. He should prefer after a time to transfer them again, after a second disinfection, to another ward before finally sending them home. The practical difficulty, however, was one of accommodation. Although it was right to canvass very carefully the causes of any "return" cases, fortunately, after all, these were not very numerous in proportion to those isolated in hospital; and while a few cases of scarlet fever might thus occur, they were very few indeed compared with the large number that were prevented by an early isolation of patients.—Dr. W. H. CHEETHAM, Dr. SANDERSON LONG, Dr. J. B. HELLIER, Dr. J. E. EDDISON, and the PRESIDENT also joined in the discussion, and Mr. PEARSON replied.

Dr. J. STEWART read notes of a case presenting Symptoms simulating Perforation of the Stomach. A woman, aged 25 years, had had double oöphorectomy performed for severe pelvic pain two years ago. After this attacks of hæmatemesis which had been present before did not recur, but signs of an ulcer of the stomach remained. One day she was seized with acute pain over the stomach, a rapid pulse, and signs of collapse, from which she rallied. A dull area in the region of the stomach developed and at a consultation with Mr. B. G. A. Moynihan chronic gastric perforation was diagnosed. Several attacks of a similar nature followed, so the abdomen was opened. The stomach was found to be quite healthy and nothing abnormal was seen. The patient made a good recovery, was free from pain, ate good meals, and attended to her household duties.—Mr. B. G. A. MOYNIHAN and Dr. T. CHURTON took part in the discussion and Dr. STEWART replied.

The following cases, pathological specimens, &c., were exhibited:—

Dr. E. O. CROFT: Mole and Sac removed from a case of Tubo-ligamentary Ectopic Gestation with Hæmatocele.

Mr. H. LITTLEWOOD: (1) Two specimens of Fibromyoma of the Uterus removed by Abdominal Hysterectomy; (2) Parts from a case of Ruptured Intestine, with a tear in the vena cava; and (3) Perforated Vermiform Appendix with large concretion.

Dr. BRONNER: Snellen's New-shaped Artificial Eyes.

Mr. B. G. A. MOYNIHAN: (1) Some cases of Inguinal Hernia in which a radical cure was performed and the rectus muscle transplanted; (2) a case of Extensive Destruction of the Motor Area; Gradual Recovery of Power in the Affected Muscles; and (3) a Fibroid Uterus removed by Vaginal Hysterectomy.

Dr. T. WARDROP GRIFFITH: (1) A case of Obstinate Ringworm of the Nails treated with Formalin Solution; (2) Lupus of the Forearm treated with Oil of Cloves; (3) Specimens of Renal Infarction; (4) Parts involved in a Pleural Effusion; and (5) a Specimen from Tuberculous Peritonitis.

Dr. ALGERNON WEAR: (1) Uterus removed by Vaginal Hysterectomy for Early Malignant Disease; and (2) Fibroid, Uterus, and Appendages removed by Abdominal Hysterectomy.

Mr. SECKER WALKER: (1) Cataract Extraction; and (2) Pseudo-Glioma of the Retina.

Mr. WALTER THOMPSON: (1) Adeno-Carcinomatous Ovarian Tumour (with section); and (2) Double Pyosalpinx.

Mr. LAWFORD KNAGGS and Mr. P. C. CAMMIDGE: Malignant Pustule with Microscopic Sections showing Anthrax Bacilli.

Dr. J. B. HELLIER: (1) A specimen of Ectopic Gestation; (2) a specimen of Carcinoma of the Cervix; and (3) an Ovarian Tumour.

Mr. T. R. JESSOP: Specimen showing Carcinoma of the Cervix, Intra-uterine Polypus, Endometritis and Parovarian Cysts, removed by Vaginal Hysterectomy.

Mr. CONSTABLE HAYES: A case of Melanoma after a Wound of the Iris.

Mr. W. H. BROWN: (1) A Vesical Calculus weighing nine and a half ounces; and (2) Carcinoma of the Sigmoid Flexure with Secondary Growths in the Liver.

Dr. A. G. BARRS: A case of Thoracic Aneurysm in a Woman.

Mr. P. J. CAMMIDGE: A specimen of Renal Calculi with Consecutive Nephritis.

Dr. E. F. TREVELYAN: (1) A case of Peripheral Birth Palsy; (2) a specimen of Multiple Tuberculous Tumours of

the Brain; and (3) a specimen of Probable Syphilis of the Aorta, with the Kidney from the same case, showing the Remains of Gummata.

Dr. A. L. WHITEHEAD: A case of Dermoid Tumour of the Conjunctiva.

Dr. T. CHURTON: A case of Doubtful Cardiac Murmur.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 6th, Dr. J. B. Ball, the President, being in the chair.—Mr. Percy Dunn read a paper on Purulent Ophthalmia in Children and its Treatment, in which he said that nothing new or original had been left to be said upon it, although the disease still remained, so to speak, one of extremes, inasmuch as, despite the fact that it could with ease be prevented, nevertheless, on the other hand, it far exceeded every other ocular affection in the amount of blindness which it caused. He discussed the subject under the three heads of etiology, prophylaxis, and treatment, and in regard to the second he laid great stress on the value of Crédé's method and showed by statistics how vastly it had been instrumental in reducing the prevalence of the disease. For treatment he relied on a weak solution of nitrate of silver (one grain to an ounce of water) frequently applied, together with a solution of sulphate of zinc. By means of these solutions the parents of the patients could be safely allowed to carry out the treatment for themselves. When corneal complications arose he advocated the instillation of eserine, which was most valuable. He condemned the use of perchloride of mercury solutions in these cases, as they frequently excited irritation, and, moreover, because the perchloride was not an astringent.—Remarks were made by the President, Dr. Herbert Snow, Dr. T. R. Atkinson, Dr. G. D. Robinson, Dr. H. P. Potter, Mr. H. Rogers, Mr. W. McAdam Eccles, and Mr. Kenneth Scott.—Mr. Percy Dunn replied.—Dr. Herbert Snow read notes of three cases illustrating the Clinical Behaviour of Gall-stones. Case 1.—A small gall-bladder with rigid fibrous walls densely packed with gall-stones closely simulating cancer of the stomach; cholecystectomy; recovery. Case 2.—Removal of gall-stones from the common duct and drainage of the gall-bladder, followed by biliary fistula; cholecystectomy; recovery, with emission of bile from the fistula. Case 3.—Abdominal tumour simulating malignancy; suppuration and discharge of gall-stones; spontaneous cure of the mucous fistula.—Remarks were made by the President, Mr. Rickard Lloyd, and Mr. McAdam Eccles.—Dr. Snow briefly replied.—Mr. Percy Dunn then proposed the following motion:—

That a sub-committee of the society be appointed to consider and report upon the advisability of recommending that ophthalmia neonatorum be made a notifiable disease in all cases attended by midwives.

Dr. G. E. Shuttleworth seconded the motion.—After some remarks by Dr. Snow and Dr. T. R Atkinson the following gentlemen were elected members of the sub-committee, with power to add to their number: Dr. G. E. Shuttleworth, Dr. G. D. Robinson, Dr. H. P. Potter, Dr. T. R. Atkinson, Mr. Percy Dunn, and Mr. Kenneth Scott.

LARYNGOLOGICAL SOCIETY OF LONDON.—An ordinary meeting of this society was held on March 3rd, Dr. F. de Havilland Hall, the President, being in the chair.—Mr. Charles Heath showed a case of Sinuses in the Vault of the Naso-pharynx. The patient, a woman, aged 31 years, appeared to have two transverse elliptical openings just behind the upper edge of the choanæ.—The case was discussed by Dr. Hill, Mr. Baber, Dr. Grant, Dr. Spicer, Dr. Thomson, and Mr. Lake, who thought the sinuses were formed by the remains of adenoid tissue, whilst Sir Felix Semon and Mr. Spencer shared Mr. Heath's opinion that there was some unusual development of the bony parts.—Dr. StClair Thomson showed a case of Obstruction of One Nostril from Antral Affection of Uncertain Origin. The case was discussed by Mr. de Santi, Dr. Grant, and Mr. Spencer.—Dr. Fitzgerald Powell showed a case of Laryngeal Growth in a male, aged 25 years. Sir Felix Semon said that the case reminded him of one he had described as fibro-sarcoma.—Sir Felix Semon showed a case of Pseudo-membranous Adhesion in the Anterior Commissure and Symmetrical Thickening below the Anterior Part of the Vocal Cord.—Mr. Lake showed (1) a case of Bulbous Middle Turbinates; (2) a case of Growth in the Arytenoid Region; and (3) a specimen of Bony Spur from the Ethmoid.—Dr. Furniss Potter showed a case of Pharyngeal Growth involving the Larynx in a man aged 59 years.—Mr. Lawrence showed a case of Advanced Atrophic Rhinitis in a girl, aged 14 years.—Dr. Henry A. Davis showed a case of Suppurative Cyst of the Turbinal Bone, which gave rise to much discussion, Dr. Tilley, Mr. Lake, Dr. Grant, and Mr. Hill considering it a case of suppuration in the anterior ethmoidal cells and possibly in other sinuses, while Mr. Baber agreed with Dr. Davis that the cyst was located on the inferior turbinate.—Dr. Davis also showed a case of Extreme Hypertrophy of the Inferior Turbinates in a boy, aged 13 years, and the operative treatment of the condition was discussed by Dr. Tilley, Dr. Spicer, Dr. Grant, Mr. Baber, and Dr. Powell.—Dr. Scanes Spicer showed a case of Extensive Ulceration of the Throat and its syphilitic or tuberculous nature was discussed by the President, Mr. Lake, Dr. Thomson, Mr. Spencer, Sir Felix Semon, and Dr. Lack.—Mr. de Santi showed a case of Hoarseness and Aphonia of long standing in a girl, aged 13 years, and a case of Obstructed Subdermal Lymphatics of the Face in which frontal and antral disease had been suspected.—Dr. Jobson Horne showed a case of Ulceration of the Larynx.—Dr. Herbert Tilley showed a case of Tumour of the Nasal Septum.—Mr. Parker showed a case of Pachydermia Laryngis.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.—A meeting of this society was held on April 9th, Dr. Thomas Barr, the President, being in the chair.—Dr. James Finlayson showed specimens from a case of Hodgkin's Disease. The case was interesting in so far as it had been apparently cured under the administration of arsenic and iron and after a fortnight an exacerbation of a severe nature had occurred in which intra-thoracic developments were clearly indicated. There was also very rapid enlargement of glands in superficial parts of the body. The microscopic appearances were those of replacement of lymphoid by fibro-cellular tissue (Dr. M. L. Taylor).—Professor Robert Muir agreed with Dr. Taylor's description and thought the condition analogous in some respects to an infective process.—Mr. Maylard, Dr. Alexander Robertson, and Dr. Walter K. Hunter also took part in the discussion.—Dr. G. H. Edington showed, for Professor Hector Cameron, a Calcaneum the Seat of a Round-celled Alveolar Sarcoma removed from a woman, aged 68 years.—Dr. John Rowan showed a Melanotic Sarcoma of the Choroid for which he had enucleated the eye. The patient was a woman, aged 69 years, and the eye presented cataract and corneal ulcer with hypopyon. She died a year later from malignant disease in the stomach and liver.—Dr. Munro Kerr exhibited a large Dermoid Ovarian Cyst in the wall of which was a thickening presenting some of the characters of carcinoma.—Dr. G. H. Edington showed (1) specimen of Old Fracture at the Elbow complicated by Recent Fracture of the Shaft of the Ulna; (2) Comminuted Fracture of the Astragalus, Compound, and Complicated by Fracture of the Calcaneum, Scaphoid, and External Malleolus, parts removed by amputation; and (3) Photographs illustrating Defective Development of the Forearms and Talipes in a girl who was subject to mental weakness.

MANCHESTER MEDICAL SOCIETY.—A meeting of this society was held on April 4th, Dr T. C. Railton, the President, being in the chair.—Dr. J. S. Bury made some remarks upon Chronic Anterior Poliomyelitis and Allied Diseases.—Dr. J. Dreschfeld read a paper upon the Cerebral Types of Influenza.—Mr. W. P. Montgomery read a communication on the Types of Rectal Cancer considered from the point of view of the Treatment by Excision. A number of specimens and sections were shown in illustration. Two great classes were described. 1. Those in which the extension of the growth took place more particularly in the submucous tissue—the intra-muscular type. The primary seat was usually low down in the first part or at the junction of the first and second parts of the rectum. In this type secondary infection of the liver through the portal system was common and was often found before the primary growth was extensive and while the case was still apparently most suitable for excision. 2. In the second group the growth, instead of spreading much in the submucous tissue, broke straight through the muscular coats and grew outside them—the extra-muscular type. The primary seat was usually in the second or high up in the first part of the rectum. In this class there was less tendency to infection of the liver, but lymphatic infection was common and the glands of the meso-rectum were early involved. Such

cases were more suitable for radical cure than those of the intra-muscular type, but wide excision, with removal of the glands and pre-sacral tissues, was necessary, and in most instances would be best done by the abdomino-perineal or abdomino-sacral method.

WIGAN MEDICAL SOCIETY.—A meeting of this society was held on April 5th, Mr. R. H. Cowan, the president, being in the chair.—Dr. E. S. Yonge, assistant physician to the Manchester Hospital for Consumption, attended and gave details of a Practical Scheme for Post-graduate Instruction in Diseases of the Throat and Nose.—A discussion followed, the following members taking part therein: Dr. White, Dr. Benson, Dr. Jones, Mr. Monks, Dr. Fletcher, Mr. Brady, and the President.—A vote of thanks was accorded to Dr. Yonge for his address.—The honorary secretary read a paper on Pharmaceutical and Therapeutical Snapshots, advocating reliance on the drugs found in the British Pharmacopœia rather than the drugs and synthetic remedies so largely advertised by manufacturing chemists.—A discussion ensued, Mr. Roocroft, Mr. Brady, Dr. White, Dr. Benson, Mr. Cooke, Mr. Monks, and the President taking part.—The honorary secretary replied.

SOUTHPORT MEDICAL SOCIETY.—A meeting of this society was held on April 11th, Dr. Pinkerton being in the chair.—Dr. Penrose read a few notes on Laceration of the Perineum and advocated the use of hypodermic injections of cocaine into the perineum for the relief of pain.—Mr. Russ Wood showed a case of Optic Atrophy in a subject in the pre-ataxic stage of tabes dorsalis.—Dr. Baines gave some details of a case of Pneumonia complicated by the presence of Streptococci in the Secretions and successfully treated with anti-streptococcic serum.—Dr. Baildon showed a good specimen of Bipartite Placenta.—Mr. A. J. Popert read an interesting paper on the Treatment of Impotence, emphasising the importance of treating the inflamed prostatic urethra in these cases.

Reviews and Notices of Books.

Twentieth Century Practice: An International Encyclopædia of Modern Medical Science. By leading authorities of Europe and America. Edited by THOMAS L. STEDMAN, M.D., New York City. In 20 volumes. Volume XVIII.: Syphilis and Leprosy. London: Sampson Low, Marston, and Company. 1899. Pp. 703.

THIS volume deals with only two diseases—syphilis and leprosy. The account of acquired syphilis has been written by Professor Lang of Vienna and Mr. Jonathan Hutchinson has contributed the description of the congenital form of the disease. We do not think that any writers could have been chosen who would be more generally acknowledged as authorities on the subject. Professor Lang's contribution occupies nearly 370 pages. The author considers that we are justified in thinking that syphilis is due to a micro-organism, but he is disinclined to believe in any of the bacilli which have up to the present been put forward as the cause of the disease. In describing the pathological changes which occur in the tissues, Professor Lang states that there is an essential difference between the inflammatory infiltrations leading to the formation of connective tissue and the infiltration which produces gumma. The difference, surely, is by no means essential, but merely one of degree. In the "inflammatory" infiltrations the effused cells are so well supplied with blood that they naturally go on to the formation of fibrous tissue; but when, as in a gumma, the effused cells are so massed together that the centre is badly supplied with blood, then the result is that fatty degeneration occurs. Thus there is no real difference between the two pathological processes; the difference is merely one of degree, and the marked difference in the final product depends entirely on the amount of localisation of the effused products.

The author tells us that he has repeatedly observed cases of re-infection, and in one of these the second infection occurred only five and a half months after the first. This is, we believe, the shortest time intervening between two attacks which has ever been recorded by a competent observer. A natural and justifiable deduction from the fact of re-infection is that the disease must be "curable." It is very curious that there are still some syphilologists who deny the possibility of re-infection. The description of the various manifestations of the disease is exceedingly good and the account of the syphilitic manifestations in the different organs of the body occupies about 200 pages. Professor Lang, in describing "syphilis maligna," states that he does not consider that this variety of the disease is due to an increased virulence of the contagium, but to a "bad constitutional condition"—for instance, such as that produced by the endemic diseases of hot climates. Many interesting points in the disease are ably discussed, but they need not detain us now. The treatment of syphilis is of immense importance and therefore we will describe more fully this latest presentment of Professor Lang's views. Much difference of opinion has existed, and still exists, as to the value of excision of the primary sore. The generalisation of the virus occurs at so early a period that many have doubted whether it is possible to prevent secondary symptoms by removal of the initial lesion, but sufficient cases are on record to prove conclusively that the disease may be aborted by excision of the chancre if this operation be performed early, and this is the opinion which the author holds. He considers that excision should be recommended only when the initial manifestation is a perfectly distinct isolated lesion, so situated that it may be removed with a wide border of healthy tissue without causing a malformation or a severe loss of substance; the neighbouring lymphatic glands and lymph channels must also be free from involvement. Even when excision of the primary sore does not prevent secondary symptoms Professor Lang thinks that the disease runs a milder course. When the initial lesion cannot be removed the author advises that abortive injections of germicidal solutions should be made into the chancre and into the lymph channels connected with it; a ½ per cent. or a 1 per cent. solution of nitrate of silver is most frequently used by him. It causes a good deal of pain, lasting, however, only a few minutes. The constitutional effects are not always prevented by these injections, yet in several patients no further signs of syphilis showed themselves. For cases in which neither excision nor injection of the primary lesion is possible Professor Lang employs "gray plaster," and it is even applicable to chancres of the urethra, for a small piece of the plaster is rolled and passed into the meatus; it is renewed after each micturition. Great stress is laid on the value of the local treatment of secondary and tertiary syphilitic manifestations, and with this opinion we fully agree; general mercurial treatment alone is not nearly so effective in removing local lesions as when it is combined with suitable local applications. The constitutional treatment is very fully described. The author speaks well of corrosive sublimate baths in the case of children, but he goes on to say: "Of incomparably great efficiency are corrosive sublimate baths with electrical cataphoresis." The bath contains from 12 to 13 grains of corrosive sublimate thoroughly dissolved. The current is gradually increased to 100 or even 200 milliampères and as gradually lowered. The bath lasts about half an hour. These baths have a remarkably favourable influence on the syphilitic process and they are very clean in administration. The only objection to their general use is the expense. As Professor Lang was the introducer in 1884 of the "gray oil" for the subcutaneous injection of mercury we should expect, as we find, a good account of this method of treatment. He now uses a mixture of lanolin and paraffinum liquidum which is just solid at ordinary

temperatures. This is heated in order to liquefy it before it is injected. The strength of the oil now employed by the author almost always is 50 per cent., though occasionally a strength of 30 or 20 per cent. may be used with benefit. The injections are made into the back on either side of the spinous processes about four centimetres from the middle line, and each succeeding injection is made about four centimetres lower down. After the needle has been inserted, and before the oil has been injected it is important to see that the point is not caught in the cutis, otherwise great pain may be caused and possibly suppuration. The injections are always subcutaneous and never intermuscular. Professor Lang never injects more than 0·05 cubic centimetre of the 50 per cent. preparation of the gray oil; this is about a minim. At first the administrations of the oil are given twice a week, but if improvement ensues the frequency is diminished. For a thorough mercurial course from eight to 12 injections are all that are required, but in grave cases it may be necessary to repeat the course. We have described somewhat in detail this method of treatment for we consider it to be probably the best method of the treatment of syphilis by injection; it is less painful and less likely to lead to complications such as suppuration.

Hydrargyrism is occasionally so important an occurrence during the course of treatment of a syphilitic case that its careful consideration is of great moment. The persistence of the mercurial absorption varies greatly in the different methods of administration; and the absorption is probably most prolonged when inunction has been employed. In the case of subcutaneous injection of soluble salts the author makes the valuable suggestion that if hydrargyrism should arise it would be possible to remove by excision all the mercury which had not been absorbed. Of the employment of iodine there is little to be said, but we may quote a case in which Professor Lang was unable to administer iodide of potassium by the mouth as the patient had dysphagia from a gumma of the medulla oblongata and the drug could not be given by the rectum as the sphincter was paralysed; he therefore gave it subcutaneously.

Mr. Hutchinson's monograph on Inherited Syphilis, it is hardly necessary to say, is a valuable account of this important form of syphilis. His name has been for many years closely associated with the recognition of two important signs of congenital syphilis—namely, the malformation of the teeth and interstitial keratitis—and we do not think that anyone has done more than he has to advance our knowledge of this subject.

Mr. Hutchinson points out that the public have a very exaggerated idea as to the prevalence of inherited syphilis. He considers that the disease is much less common now than it was in the sixteenth century and that the extent to which its hereditary transmission influences the well-being of the community is exceedingly small. He holds that no case has ever been made out for the occurrence of transmission of the disease to the third generation.

Professor Prince A. Morrow of New York has written the article on Leprosy. The question as to the hereditary nature of leprosy is very fully discussed, and abundant evidence is brought forward to show that it is probably never transmitted by heredity. As to its contagiousness numerous facts on both sides of the question are given. Professor Morrow points out that many persons have lived for years in close association with lepers and have not contracted the disease, yet some of these cases which have even been quoted in text-books as proof of the non-contagiousness of the disease have afterwards become affected. That the contagiousness is not great must be acknowledged, but it is not possible now to deny that the disease is contagious. What is the exact method of infection and by what channel the organism enters the body we know not.

The symptoms and course of the two varieties of leprosy are well described, and numerous excellent reproductions of photographs illustrate the chief features of the disease.

We fully agree with the author that the leprosy of Leviticus included many diseases having no connexion with the disease which we call leprosy, and certainly in the Middle Ages the dwellers in the numerous leper houses were not all lepers. The diagnosis in well-marked cases is easy; in the early stages it is exceedingly difficult and probably many cases are overlooked.

As to the treatment the author does not speak with much hopefulness. He acknowledges that many lepers have improved while under treatment, but he considers that the improvement is merely a coincidence, and that in the vast majority of cases leprosy is an incurable disease. Serum-therapy he looks upon as useless.

With regard to prophylaxis, Professor Morrow "believes that segregation is the most effective measure that can be employed to limit the spread of leprosy, and in some countries it is a necessary measure, but he does not believe that it can ever result in the entire suppression of leprosy largely because of the nature of the disease and the impossibility of making it thorough and complete." Valuable and interesting chapters are those on the history and geological distribution of this important malady.

Clinical Medicine: a Manual for the Use of Students and Junior Practitioners. By JUDSON S. BURY, M.D., F.R.C.P. Lond., Physician to the Manchester Royal Infirmary. Second Edition. London: Charles Griffin and Co. 1899. Numerous Illustrations. Pp. 532. Price 21*s*.

THE author explains in the preface that the chief aim of the present manual is to assist the student and junior practitioner in the examination of medical cases. For this reason symptoms and signs are treated of rather than diseases, and much thought and labour have been devoted to the arrangement of symptoms in the order in which they are usually considered in practice.

A text-book of this nature will be found of great use by those for whom it is intended, as shown by the title. The senior student will find in it numerous hints as to the physical examination of patients and the conclusions that may be derived therefrom, and the practitioner whose knowledge of anatomy will probably not have improved since the time when he left the hospital will by reference to its pages be able to refresh his memory on the position and relations of the internal organs which are only too apt to slip the memory. Another advantage of this work is that it enables the student to "read" the physical signs which he elicits on examination. It is not sufficient that he should be able to recognise "râles" and "murmurs" when he hears them, but he must be able to interpret them in such a way as to understand fully the nature of the morbid processes which are taking place.

The value of close observation is of course insisted on, and this is particularly the case in Chapter II. on Symptoms for the most part Subjective in Character. Here we find sections dealing with symptoms indicating disturbance of the nervous system, such as pain, numbness and tingling vertigo, and disorders of consciousness; next, a consideration of symptoms indicating disturbance of the functions of the respiratory or circulatory organs, of the digestive organs, and of the urinary organs respectively. These various subjects give the author ample scope to show the value of observation and deduction of which he has taken the fullest advantage.

The chapter on Examination of the Skin and its Appendages will also be found of value, for it is a subject which is rather neglected in text-books on general medicine.

The chapters on Examination of the Respiratory and

Circulatory Systems are as lucid as such chapters can be. It is almost impossible to describe in words the varieties of changes in the breath sounds in disease or the characteristics of cardiac murmurs; in order to be able to recognise them with any degree of confidence the student must actually hear them for himself through the medium of the stethoscope; nevertheless, their significance can be best studied by reference to books, and then corroborated by attendance in the post-mortem room.

The examination of the blood for clinical purposes has received much attention during the past few years. Dr. Bury has brought this chapter fully up to date; the methods of examining the blood are carefully described and some useful illustrations are inserted.

The chapters on the Examination of the Digestive System and Abdominal Organs are also full and lucid. The chemical and microscopical examinations of urine are described in a manner easy to follow and only those tests and processes are given which are simple and thoroughly reliable.

There is no class of diseases the study of which requires such an intimate knowledge of anatomy and physiology as that of diseases of the nervous system. Again and again the student is baffled when attempting to make a diagnosis, not so much through inability to investigate a nervous case, but because he forgets the function of a particular centre or the origin of a particular cranial or spinal nerve. Dr. Bury therefore very rightly briefly reviews some of the more essential facts relating to the structure and functions of the nervous system, giving special prominence to those which most commonly call for consideration in the diagnosis of nervous diseases. Judiciously selected diagrams considerably aid in this description.

We can cordially recommend this volume to our readers and congratulate the author on the success of his labours.

Surgical Anatomy: A Treatise on Human Anatomy in its Application to the Practice of Medicine and Surgery. By JOHN B. DEAVER, M.D., Surgeon-in-Chief to the German Hospital, Philadelphia. London: Rebman, Limited. 1899. Vol. I. Price 36*s.* net.

THIS very comprehensive work on applied anatomy is to be published in three volumes, with about 400 plates, of which nearly all will be drawn from original dissections. The first volume includes the upper extremity, the back of the neck, the shoulders, the trunk, the cranium, the scalp, and the face, and contains 632 pages, so that the complete work in three volumes will be an encyclopædia rather than a text-book or a manual. Superficial landmarks are carefully noted and the more important congenital variations and anomalies are described so far as they have any bearing on medical and surgical procedures. A fully detailed description of human anatomy is also given, although we fail to see its connexion with the surgical anatomy of the region—as, for instance, there is a minute account of the shape, position, attachments, blood-supply, nerve-supply, and action of the subclavius muscle. Such details are surely more interesting to the student in the dissecting-room than of value to the surgical operator. In fact, the steps of the necessary dissections on the subject are all minutely described as the course proceeds, and every small structure, surgical or non-surgical, is mentioned at length. The general descriptive anatomy is supplemented by chapters on excisions, amputations, fractures, &c., but these would be more valuable if they were separated from an elaborate epitome of anatomy, including even the deep muscles of the back, accurate as their description undoubtedly is. A compendium of detailed human anatomy is not surgical or medical anatomy, and the two should not be forced into one book. A manual is one thing, a work of reference is another, and this treatise is the latter. We admire, however, the thorough manner in which the material has been systematised and arranged.

The Practice of Medicine. By the late M. CHARTERIS, M.D. Eighth Edition. Edited by F. J. CHARTERIS, M.B., Ch.B. Glasg., Assistant to the Professor of Materia Medica and Therapeutics, Glasgow University. London: J. & A. Churchill. 1899. Pp. 655. Price 10*s.*

THE fact that this work has reached an eighth edition is sufficient proof that it has satisfactorily supplied a want, and no words are required from us as to the nature and scope of the book. The present edition was called for after the death of the late Dr. M. Charteris and has been edited by his son, Dr. F. J. Charteris. The book has been carefully revised and brought fully up to date. It has been considerably enlarged since the first edition and has taken its place as a recognised text-book in general medicine.

The prescriptions contained in the appendix have been altered so as to bring them into conformity with the requirements of the new edition of the British Pharmacopœia. We are not advocates for abridged text-books on medicine, believing that every student should strive to obtain as full a knowledge as possible of his profession. With this text-book in his hand, however, together with constant and careful attention in the wards and out-patient rooms, a student should have no difficulty in preparing himself for his final examinations.

A Manual of Surgical Treatment. By W. WATSON CHEYNE, M.B. Edin., F.R.C.S. Eng., F.R.S., Professor of Surgery in King's College, London, &c., and F. F. BURGHARD, M.D., M.S. Lond., F.R.C.S. Eng., Teacher of Practical Surgery in King's College, London, Surgeon to King's College Hospital, &c. In six parts. Part 1, Second Edition. London: Longmans, Green, and Co. 1899. Pp. 285. Price 10*s.* 6*d.*

IT is not often that two editions of a work on a medical or surgical subject are published in the same year; but such has been the case with the first part of this excellent treatise and we are not in any way surprised at the cordial reception which it has received from the profession. We published so full a notice of this part on its first appearance that it is necessary to say but little about this, the second, edition.

The preface contains replies to some criticisms of the first edition on the proportion of space allotted to pathology and on the question of the antiseptic or aseptic treatment of wounds. With regard to the first point we are quite at one with the authors as to the propriety in a work like the present of introducing only so much of the symptoms and pathology as is needed in order that the treatment may be carried out efficiently. With reference "to the controversy concerning the treatment of wounds" we have always maintained that the difference between the methods is much more apparent than real. With the careful employment of either method perfect results may be obtained; with either method carelessness will lead to failure. The most important difference between the two lies in the fact that in the antiseptic method, as usually practised, antiseptics are applied to the wound itself; in so far as these antiseptics are irritants they must tend to check the healing of the wound, but if the antiseptics are of such a nature or of such a strength as to cause no irritation then they can have no harmful influence. Moreover, if the incision be made into aseptic tissues, there can be no necessity for the application of any antiseptic to the surface of the wound itself.

We ventured in our notice of the first edition to draw attention to a few points which we considered to require correction. None of these appears to have been altered; only one error was of much importance, that where it is stated that "as hot as the hand can bear" is "about 150° F." This temperature is at least 25° too high.

LIBRARY TABLE.

Brain and Body: the Nervous System in Social Life. By ANDREW WILSON. London: James Bowden. Price 1*s.* 6*d.* Pp. 142.—The author is a clear and interesting writer, and this small book deals in a popular way with many points in the physiology of the nervous system. He gives a short account of the three great portions—namely, the brain, the spinal cord, and the sympathetic systems—and then proceeds to discuss the influence of food and stimulants. There is also a chapter on "Some Nervous Ills and their Remedies" in which we are glad to see that the author lays down the principle that the only safe course is to consult a medical man. On page 31 he refers to Sydney Smith's simile that "you could diagnose the faculties of the dean and chapter of St. Paul's by an inspection of the Cathedral dome." Surely this story is wrongly told. So far as we remember it runs thus: Sydney Smith saw a young lady stroking a tortoise "to please it." On this he said, "You might as well try to please the dean and chapter by stroking the dome of St. Paul's."

The Art of Feeding the Invalid. By a Medical Practitioner and a Lady Professor of Cookery. London: The Scientific Press. Pp. 260 and Index. Price 1*s.* 6*d.*—This is a fairly good book on the whole, if we make the proviso that the medical details are, as is so often the case in such books, too explicit for the lay reader and well known to the medical reader. But the diet tables are very full and there is a host of most excellent recipes. We see that the authors sensibly say that diet must not be too monotonous. On page 165 a recipe "by a staff nurse" is given for custard pudding, which we are quite certain would prove a failure. To begin with, two eggs are not enough for a pint of milk, and "bake it for about 25 minutes" may mean anything. It depends on the heat of the oven, and the average custard pudding is baked in far too hot an oven. Albumin coagulates at a temperature of about 140° F., which is far below 212°, and the average pudding is allowed to boil and consequently is spoiled. We are not so sure as are the authors with regard to the advisability of a gouty person eating curries, and we should say that for such a patient game, if simply cooked and not decomposing, was harmless.

Bailey's Index to the Times. Published monthly. London: Eyre and Spottiswoode. February, 1900. Pp. 111. Price 3*s.*—To search for a given subject in a file of the *Times* is a task of no small magnitude, but with the aid of such a key as *Bailey's Index* the place wanted can generally be found at once. In the present number there are 20 pages of references to the South African war arranged in alphabetical subheadings according to the contents of the various articles. There are cross-references to many subjects, a system which is a great help in finding the passages of which readers may be in quest.

Practical Nursing. By ISLA STEWART, Matron of St. Bartholomew's Hospital, London, and HERBERT E. CUFF, M.D. Lond., F.R.C.S. Eng., Medical Superintendent North-Eastern Fever Hospital, Tottenham, London. In two volumes. Vol. I. Edinburgh and London: William Blackwood and Sons 1899. Pp. 250.—In this volume the nurse's work is dealt with from a general point of view. Probationers just entering on their work will do well to read its pages thoroughly, whilst fully trained nurses will find much that will help them to carry out their duties with credit to themselves and thereby considerably add to the comfort and welfare of their patients. The aim of the authors has been to make the practical part of the book as thorough as possible and in this endeavour they have admirably succeeded. The hygiene of the ward, the personal care of the sick, diet in disease, the methods of giving baths and packs, hot and cold applications, the methods of giving enemata, &c., are most carefully described with an attention to detail which is worthy of great praise. Nurses will doubtless wait with eagerness for the second volume, in which will be considered in detail the nursing of the various medical and surgical diseases.

JOURNALS.

Caledonian Medical Journal.—The April number contains the introductory portion of an interesting article on the Ethnology of the Scottish Gael, by Mr. Alexander Macdonald, secretary of the Gaelic Society, Inverness. Although not prepared to maintain that there was no aboriginal race he considers it most probable that the British islands were peopled from the continent and that the first settlers were dark-featured and dolicho-cephalic, coming presumably from Gaul. This he regards as most likely from the fact that in studying the general question it is found that the darker inhabitants occupy the remotest and most mountainous parts of the country, both in Britain and Ireland, as if their ancestors had retired before the later comers, who would seem to have been fairer in complexion.

Mercy and Truth.—In the April number Dr. H. Martyn Clark describes a visit to the Medical Mission Hospital at Peshawar in the Punjab. Dr. Marcus Mackenzie writes on Dispensary Work at Ning-Daik in South China.

New Inventions.

APPARATUS FOR THE LOCAL APPLICATION OF ETHYL CHLORIDE.

THE illustration represents a new ethyl chloride container, manufactured by Mr. B. Kühn, 36, St. Mary-at-hill, London, E.C., for the application of ethyl chloride in the form of spray as a local anæsthetic in minor surgical and dental operations. The container is a strong glass tube provided with a patent automatic stopper in place of the screw cap which was used to close the orifice in the older patterns. When the lever is pressed with the forefinger or thumb the liquid escapes in a jet of spray, and this is directed on the part which it is desired to anæsthetise, the muzzle being held at a distance of from six to eight inches from the skin. Anæsthesia is produced in from half a minute to one minute and lasts about two minutes. In addition to its use in surgery ethyl chloride spray has also been found to give relief in various neuralgic conditions. The sizes and prices of the tubes are as follows: tubes containing 10 grammes of ethyl chloride, 1*s.* 4*d.* each or 10 for 12*s.*; tubes containing 30 grammes, 3*s.* 3*d.* each, or three for 8*s.* 6*d.*; tubes containing 60 grammes, 4*s.* 3*d.* each. The necks of the tubes are either straight or curved, according as may be desired.

THE LANCET.

LONDON: SATURDAY, APRIL 21, 1900.

LAST year plague prevailed in Alexandria and Oporto and caused a spasmodic interest in the subject which quickly subsided as soon as the epidemic in both centres declined. Similarly when plague first appeared in India the interest in Europe bordered on alarm until the conference of the Powers at Venice framed regulations to prevent its importation into other countries. Since then plague has slowly pursued its own course and has spread in many directions in spite of the Venice Convention and other means for its control. Plague continues its ravages in India and destroys at present nearly 5000 of its inhabitants every week. Still, so little accustomed are the English people as a whole to take an interest in the welfare of that great dependency, unless it is brought home to them in some exceptional manner, that the enormous mortality does not arrest any particular attention. The distance from India, the comparative immunity of the European, and the absorbing interest of the war in South Africa have contributed in no small degree to intensify an indifference which everyone who has followed the effects of the plague must deplore. The plague has now existed in India for five years, has destroyed over 250,000 lives, and shows not the slightest tendency to abate its fury. It has caused unrest and disturbances in important centres of India because of the preventive measures which have to be adopted, and only last week the military had to be called out to quell a serious riot in Cawnpore, the rioters having set fire to the segregation camp and thrown the bodies of five of the policemen who opposed them into the flames. The multiplication of centres is apt to become a political danger. Disorder is the ordinary accompaniment of great epidemics of plague and is as likely to occur in Europe as in India. The comparative immunity to plague of Europeans in India is responsible for a very comforting though curious impression that plague is a disease of Asiatics. The occurrence of plague in Oporto tended to shake this belief, but the decline of the epidemic there, without attaining any great size, notwithstanding the exceptional character of the sanitary condition of Oporto, once more strengthened this hypothesis. The outbreak of plague in Sydney is sufficient to dispel notions of this kind. Unlike Oporto, it is not an old town and in this respect has an advantage. It possesses also a well-organised sanitary department, and yet notwithstanding the active and watchful care of Dr. ASHBURTON THOMPSON and his able staff plague has gained an entrance and a lodgment. In January a lorry-driver was attacked by a mild and anomalous form of the disease and recovered. In a little over three weeks a sailmaker was attacked and died on the eighth day, and at the same time it was reported that a greater number than usual of dead rats were to be seen at a certain wharf. The sailmaker had removed five dead rats from his water-closet shortly before his attack. As elsewhere, the mode of importation of plague into Sydney has not been traced. Careful inquiry instituted by Dr. ASHBURTON THOMPSON takes it no further than the landing wharves, but no light can be thrown on its source or as to whether the infection was brought by man, by goods, or by rats. Every endeavour is being made to stamp out the disease; the success hitherto attained has, unfortunately, not been altogether as desired, and the ominous fact remains that in spite of the most rigorous inspection and other port arrangements, in spite of the recognition of early cases and their removal to hospital, and in spite of a crusade against rats, plague has attacked as many as 90 persons, has caused 23 deaths, and after three months' endeavour to stamp it out is still a source of anxiety.

So far as an opinion can be formed at this stage Sydney is not a town the conditions of which render it specially liable to be attacked with plague. Its situation, general construction, and its sanitary organisation are all in its favour. The danger lies in the disease becoming disseminated in parts of Australia less ready to defend themselves against its invasion and in those parts which have suffered from drought. We see that the different health authorities are appreciating the gravity of the fact and that the health officers have met in consultation. Special attention will no doubt be paid to rats and we trust that it will not be forgotten that other rodents are liable to the disease. The rabbits which infest Australia will, we hope, not be lost sight of as a possible source of danger.

The experience of Sydney is not calculated to inspire confidence as to the invulnerability to plague of European towns or the sufficiency of the methods now in vogue to meet an epidemic. Without being pessimistic it is well to recognise the true nature of the situation. A good deal has been learnt about plague since it started in China, thanks mainly to *savants* who do not bear English names and who have worked unceasingly at the problems presented, but much more apparently has still to be learnt before the protective measures now practised are wholly effective. While making use of what is known we should be glad if more attention were paid to that which is not known. It would, we feel sure, serve a most useful purpose. It seems as remarkable as it is unintelligible that the only English Scientific Committee to investigate plague was appointed at the commencement of the Bombay epidemic in 1896 and that its work was completed in six months. Since then there is ample evidence to prove that we are supremely ignorant of the means of the diffusion of plague, and yet all these years have been lost in treading the old paths without attempting to search for others that may be new. Even when the plague broke out in Oporto it was not thought to be serious enough to demand an investigation into its methods of spread. This state of lethargy which appears to be constitutional in England will, we fear, have a rude awakening. It will not be because of the absence of warnings. The insidious character of the plague, the pandemic powers which evidently belong to it, and its progressive extension have been persistently pointed out by Professor W. J. SIMPSON on many occasions. Last year we gave prominence to

his address before the Sanitary Institute on the recrudescence of plague in the East and its relation to Europe, and in THE LANCET of April 14th we published an important address by him on the subject to the South-West London Medical Society. In these and other papers he has always urged that side by side with the ordinary measures there is an absolute necessity for scientific research, declaring that it is only by continued investigation on systematic lines that we are likely to discover further means of securing protection. Plague is the same as it always has been, and the only safe course is not to shut our eyes to its power and to our proved inefficiency of defence but to prepare beforehand for eventualities by sparing no pains or expense in ascertaining the tactics of the enemy. This is necessary in the interests of England and her colonies, but there are special reasons that it should be done for the sake of South Africa. For should plague gain a foothold in any of its towns, as it has done in Sydney, the drought of the summer and autumn, the large armies in the field, the misery caused by the war and the pestilential condition of the battlefields are factors well known to influence the rapid spread of the disease.

THE Act making provision for next year's census in England and Wales and Scotland having received royal assent, it is now possible to discuss the points in which the Act differs from the Acts that provided for preceding censuses in England and Wales and Scotland. In the first place, however, it is necessary to notice, with serious regret, that the Act for the usual decennial census does not make provision for that simple intermediate census which year by year becomes increasingly necessary in order to assure approximate accuracy and trustworthiness to the periodical returns of vital statistics issued by the Registrars-General for England and Wales and Scotland and by medical officers of health for counties, county boroughs, and other Local Government areas. Notwithstanding the urgent appeal of the Royal Statistical Society, supported by collective representation from associations of medical officers of health, actuaries, and county councils, all interested in, and qualified to approach the Government on, this subject, the President of the Local Government Board, while expressing sympathy with the desire for a quinquennial census, introduced the Bill without any attempt to meet the general appeal for a simple enumeration of the population (with distinction of sex and age) in 1906, mid-way between the usual decennial census in 1901 and 1911. Sir FRANCIS POWELL gave notice of amendments to the Bill on the second reading in the Commons, with a view to provide for this intermediate census, but they were ruled out of order, and once more through the apathy of the Local Government Board, on a matter of real, though indirect, importance for the promotion of public health, the realisation of a quinquennial census is relegated to the off-chance of convincing the President of the Local Government Board in 1905 that the very moderate expenditure involved in a simple enumeration in 1906 would, from a public health point of view, be distinctly remunerative by strengthening the efforts of local authorities in the acceleration of sanitary progress.

The Census (Great Britain) Act, 1900, apart from the fact that it provides for the census in England and Wales and Scotland, whereas in 1890 two separate Census Acts were passed, is identical in all essential provisions with previous Acts, although in drafting it has been considerably simplified with advantage. The new Census Act leaves the Registrars-General of England and Wales and Scotland with a freer discretion as to the method of dealing with the householders' schedules and the subsequent tabulation of the results. It will thus be possible to adopt the card system of tabulation in place of the previous system of making ticks on elaborate abstract sheets. Judging by the experience of foreign countries and of some of our colonies, the card system not only tends to expeditious, accurate, and economical tabulation, but it opens up possibilities of additional combinations of statistical facts which the older system does not afford. Among the minor improvements in the Act, compared with preceding Census Acts, may be noted the following, mainly due to the suggestions of the Royal Statistical Society. An attempt will for the first time be made to ascertain the nationality of persons born abroad. There is also an instruction to record, with reference to houses uninhabited on the census night, whether they are occupied or unoccupied, that is, whether they are or are not on the rate-books. An additional clause in the Act under notice has especial interest for medical officers of health. This clause provides that the Registrar-General may, at the request and cost of the council of any county, borough, or urban district, cause special abstracts to be prepared, containing statistical information derivable from the census returns and not included in the published Census Report, which in the Registrar-General's opinion the council may reasonably require. The card method of tabulation would materially facilitate the preparation of these supplementary local returns which would in many cases be invaluable to medical officers of health in the prosecution of special investigations.

In response to an urgent appeal of the Registrar-General, supported by memorials from the Royal Statistical Society and other scientific associations interested in census matters, the Act just passed will allow of more time for preparatory measures than has on previous occasions been afforded, as the Census Acts have not usually received roya assent until the close of the session in the year preceding the census year. The four additional months available for preparation on the present occasion will afford invaluable opportunity for well-considered revision of the sub-division of the country into enumeration districts, with due regard to the boundaries of the various local areas, which revision will much facilitate the final tabulation of the results of the census. It is therefore reasonable to hope that the report upon the census of 1901, dealing with its results, may be available at an earlier date than was found possible on previous occasions, as it is obvious that the value of a census depends to a large extent upon the promptness with which its results can be made available for national and local statistical purposes.

THE rejection of the Bill introduced by the London County Council for the purchase of the metropolitan water companies' undertakings leaves with the Government the responsibility of dealing with the uestion. But

in a Parliamentary session like the present one, in which so much time must necessarily be occupied by questions referring to the war, it would probably be impracticable for the Government to devise a scheme embodying everything recommended by Lord LLANDAFF'S Commission's Report and to bring in a Bill which would have any chance of passing. The Government cannot be advised at the present juncture to deal with the question of the formation of a new Water Board or the purchase of the metropolitan water companies' undertakings. To any such proposed legislation whenever brought forward a great many objections will be forthcoming from the authorities of the districts affected, whose interests are not only not identical but are often opposed to one another. We do not hesitate to say that a Bill intended to give effect to all the recommendations of Lord LLANDAFF'S Commission with regard to the formation and composition of a Water Board would meet with the strongest resistance, and whatever may be the justice of that resistance it is clear that at the present time the Government could not deal with it. There are, however, recommendations in Lord LLANDAFF'S Commission's Report which deserve, and would meet with, general approval on the part of all the water consumers of the metropolitan district. These recommendations refer to the question of "control"—that is, to the placing of the present metropolitan water companies under a more efficient and thorough condition of supervision by the Local Government Board. Whether the companies are allowed to continue to supply water in the future as they have in the past, or whether their businesses are bought up by a Water Board, the measures of control recommended by Lord LLANDAFF'S Commission's Report should, in the opinion of the Commission, be carried out. And to our mind there is no reason whatever why there should be any delay in passing an Act which will be of use in either case. Mr. CHAPLIN has recently pointed out that although Lord LLANDAFF'S Commission's Report has been issued the evidence has not been published. This should not be made a pretext for delay.

We may mention some of the directions in which control is urgently called for. The Act of 1871 which provided for the appointment of a Water Examiner to the Local Government Board made no provision that he should have the right of entry to the works of the companies. Any inspection, therefore, which he makes is done by the "courtesy" of the companies. The Water Examiner ought to be able to enter any works of the companies at any time as a matter not of courtesy but of right. He will then be able to ascertain the cause of any defect with regard to the filtration of the water. And he should have power to make regulations as to the construction of filter-beds and their effluents; for example, each filter-bed should have a separate filter-well so that a sample can be taken at will and the results of filtration in each bed determined, while the rate of filtration ought also to be automatically recorded. The examinations of the filtered water should be more frequently made, and the work should be done by men appointed by the Water Examiner. The companies which obtain their supplies from deep wells should be compelled to keep an accurate record of the height of the water in the wells and of the amount which is pumped daily. It is very important that this by no means new suggestion should be acted upon. As long ago as the year 1893 Lord BALFOUR'S Commission reported in favour of this measure of control and Lord LLANDAFF'S Commission concurs in the recommendation. There is no excuse for further delay in giving statutory power to carry it out. It may be worth while to quote the exact words given in Lord BALFOUR'S Commission's Report. "We think it of very great importance," says the Report, "that distinct obligations should be laid upon any company or local authority which is allowed to pump water from the chalk for purposes of public supply to keep accurate observations of the effect of their operations on the level of the water in the wells from which they pump and to return the results to the water examiner under such regulations as may be framed. The great difficulty which we have had to encounter has been in getting accurate and reliable information as to the actual effect of the operations now carried on. The importance of procuring this will increase each year as the limit of what can be taken from any district with safety is gradually being reached." Had this recommendation been carried out when it was made nearly seven years ago we should now be in possession of facts which would be of the greatest use in helping to estimate the quantity of water which the chalk formations near London are, and are likely to be, able to supply.

There is another point which deserves the early attention of the Government. Although this was not brought before Lord LLANDAFF'S Commission we think well to notice it in this place, especially in view of the increased duties which will be thrown on the Water Examiner when he is properly provided with facilities to do his work. Under the Act of 1871 provision for the payment of the salary of the Water Examiner was imposed on the metropolitan water companies. It is obviously unfair to the companies that they should have to pay, or even contribute towards the payment of, an officer who is specially appointed to keep them up to their duties. The sum contributed by each company is doubtless small, but that does not affect the principle of the question. Again, it is derogatory to the position of so important an official as the Water Examiner to the Local Government Board that his salary should be paid by a number of trading companies. At the present time the Water Examiner is obliged to rely for his statistics upon the figures supplied to him by the engineers and other officials of the metropolitan water companies. The reports of some of the experts which he publishes in his official record are made not by his own employés but by gentlemen chosen by, and paid by, the companies. The Water Examiner should have the power of obtaining directly all the information which he requires for his reports and the work should be done either by himself or by subordinates appointed by, and responsible to, him and these subordinates should be paid not by the metropolitan water companies but by the Local Government Board. There may be, and perhaps naturally, an objection on the part of the Treasury to increase expenses in this way, but in a matter of such very great importance parsimony is entirely misplaced.

The Act of 1871 brought into force another unsatisfactory arrangement which needs immediate amendment. Under

this Act an auditor was appointed by the Local Government Board to examine the accounts of the water companies. But under this Act it was provided that should one of the companies feel aggrieved by a decision of the Auditor the matter in dispute is to be referred to arbitration, when the Auditor himself out of his own pocket has to fee counsel and pay his own costs. This is really a monstrous iniquity. In the Report on this matter Lord LLANDAFF'S Commission says: "We think that provision should be made for paying the expenses of the Auditor out of public moneys, as he is a public officer; and that he should not be discouraged from asserting his views, in opposition to the companies, by the prospect of being out of pocket if he does so." The Auditor is paid from the same sources as is the Water Examiner—that is to say, his salary is obtained from the water companies, and although the money is paid to him through the Local Government Board the fact remains that he is actually paid by money derived from the profits of the water companies which are private business speculations. We are strongly of opinion that all the officials appointed to supervise the London water-supply should be paid entirely out of Government funds. It is a most undignified arrangement that persons holding positions of such power and responsibility should be paid in the way at present arranged.

We have no doubt that a Bill containing provisions necessary to increase the power of control of the Water Examiner to the Local Government Board in the respects which we have mentioned and at the same time to arrange for the payment of the officials from public funds would be supported from both sides of the House. The question of the London water-supply is one of really national importance and party politics cannot properly be intruded into a matter which is intrinsically above the considerations of class and of party interests. The attempts which have been made in the past to make party capital out of the London water question will be rendered entirely futile in the future if the President of the Local Government Board will consider the question on its merits and will introduce a Bill which is obviously for the public good.

Annotations.

"Ne quid nimis."

THE ROYAL ARMY MEDICAL CORPS SOUTH AFRICA FUND.

THE third circular just issued in connexion with this fund contains some information which will be found both useful and interesting to those who are taking any part in promoting its excellent design and objects. In the two previous circulars an account of the formation and objects of the fund was given. The present circular is intended partly as a report from the Executive Committee to the subscribers, while at the same time advocating still further the claims of the non-commissioned officers and men of the Royal Army Medical Corps. The fund supplies comforts to those attending on the sick and wounded only and has obtained, we are glad to say, the most generous support from all classes, chiefly from the medical profession. The subscriptions received by the treasurer amount to £1795 6*s.* 6*d.*, to say nothing of the consignments of clothing and gifts in kind from all quarters. The office in Victoria-street having proved inconvenient in many ways has been removed to 77, George-street, Portman-square, W., where all communications are to be addressed in future. Gifts in kind and all inquiries are to be directed to the honorary secretary at this address. The first list of subscribers to the fund appeared in the *Times* of Feb. 27th and a second will be published shortly. The method of procedure in the distribution of the funds and gifts and the nature of the further requirements are clearly set forth in the circular together with a list of those articles mentioned in a despatch from Lord Roberts as being most needed for the approaching cold weather. Mrs. Skey Muir, the wife of the Deputy Director-General of the Army Medical Service, is kindly acting as honorary secretary. Cheques should be made payable to the Royal Army Medical Corps South Africa Fund and crossed Holt and Co. Subscriptions are to be sent to the honorary treasurer, Mrs. Charters Symonds, 58, Portland-place, W., or to Messrs. Holt and Co., 3, Whitehall-place, S.W. It is needless to add that the object of the fund has our entire sympathy and support and that we wish its promoters every success in their excellent and humane undertaking.

HEMIPLEGIA IN SCARLET FEVER.

AT the meeting of the Société Médicale des Hôpitaux of Paris on March 16th M. Ferrier related two cases of scarlet fever complicated by hemiplegia. This complication is exceedingly rare. Dr. Foord Caiger does not mention it in his article in "Allbutt's System of Medicine" which contains an analysis of the complications met with in 4015 cases of scarlet fever in the South-Western Fever Hospital. In the first case a soldier had a very severe attack of scarlet fever which began on Dec. 15th, 1898. It was attended with great pyrexia, extreme rapidity of pulse, præcordial distress, and dyspnœa without pulmonary lesions. On the fifth day, however, he was better and the disease seemed to be running a normal course; but suddenly on the seventh day an apoplectic seizure took place. It was attended by unconsciousness and complete left hemiplegia with early and transient rigidity. The coma passed off on the third day, but the hemiplegia persisted. After a time the hemiplegic symptoms slightly improved and hemianæsthesia, which was at first complete, partly disappeared. In April, 1899, he was discharged from hospital convalescent. When seen again in August the left arm was contracted in semiflexion, the forearm was flexed at right angles to the arm, and the fingers were bent on the palm. The patient could not perform any movement of the fingers, wrist, or elbow, and could only slightly raise the arm from the side. The lower limb was in the position of extension; movements of the toes and ankle were impossible; the knee could be slightly flexed and the thigh considerably. Walking was performed with difficulty. The left side of the face was a little smoother than the right and the asymmetry was exaggerated on laughing. The paralysed limbs were slightly atrophied, showed some cyanosis, and were of lower temperature than on the other side. The tendon reflexes were increased on the left side and the plantar reflex was "extensor" (Babinski's sign). Sensibility was present, but there was difficulty in localising sensations and in recognising the position of the limbs. In the second case a soldier had a sore throat on Dec. 21st, 1898, and entered hospital with scarlet fever on the following day. The disease ran an ordinary course until Dec. 27th, when an attack of apoplexy very similar to that in the first case occurred. There was complete left hemiplegia, but the coma was not so prolonged. After some weeks movement and sensibility reappeared in the left leg and the patient could walk without

much difficulty. In August all movements of the arm could be executed but they were slower and less forcible than on the right side. The patient walked easily, but there were in the lower limb, as in the upper, some paresis and contracture. There was no facial deformity except on laughing when slight lowering of the left angle of the mouth were observed. The plantar reflex was "extensor." There was slight atrophy of the affected limbs. The hemiplegia in these two cases was manifestly organic. M. Ferrier thinks the most probable cause was softening of the cerebral cortex. The early rigidity is in favour of a cortical lesion. Moreover, the hemianæsthesia observed in the first case was not accompanied by other sensory symptoms, which often are found in hemianæsthesia of capsular origin. The absence of cardiac troubles is opposed to the hypothesis of embolism. Arteritis giving rise to thrombosis seems the most probable explanation. Moreover, in a recorded case of post-scarlatinal paralysis destruction of the lenticular nucleus and of the posterior part of the internal capsule from thrombosis of the middle cerebral artery was found at the necropsy. Finally, arteritis has been observed in many of the infectious diseases.

THE CARDIFF INFIRMARY.

THE Management Committee of the Cardiff Infirmary, comprising lay as well as medical members, is at last paying the penalty of its undue interference with the resident staff of the institution, for it has lately experienced considerable difficulty in filling the vacant post of senior resident medical officer. At the end of last month, in response to repeated advertisements, three gentlemen sent in their applications to the medical board and one of them, Mr. Geary Grant of Halifax, was selected for the position. The rules of the infirmary require the appointment to be actually made by the Management Committee, but for many years past the recommendation of the medical board has invariably been adopted under similar circumstances; so that when Mr. Grant inquired definitely whether he was elected the chairman of the Management Committee, Major-General Lee, to whom the matter was referred, could hardly be blamed for replying in the affirmative. At the meeting of the committee held on April 11th this assertion of responsibility under very exceptional conditions was severely criticised, and it was only after General Lee had threatened to resign his position that better counsels prevailed and his action was endorsed.

INDUSTRIAL LEAD POISONING.

IN another column we publish in full a memorandum from the Home Office referring to cases of Lead Poisoning occurring in House Painters and Plumbers and also to the circumstances in which recurring attacks in the same person should be notified. The document bears the signature of Dr. Arthur Whitelegge, Chief Inspector of Factories. His remarks will meet with general approval, and if his suggestions are carefully followed much will be done towards averting the dangers connected with working in lead. The Act only applies to those cases which appear to have been contracted in a factory or workshop, and it is pointed out that beyond these limits the Home Office has no power to interfere, and plumbism otherwise acquired cannot be dealt with by the Factory Department. With regard to house painters there are some obvious difficulties. Although the workmen perform most of their duties away from the factory or workshop occupied by the employer, yet part of the time they may be occupied in grinding lead pigments or mixing lead paints within the premises. The question may then arise whether when such men become affected the cases become notifiable. Dr. Whitelegge states that several instances of this kind have been notified, but after laborious inquiry no ground could be discovered for assuming causation at the factory or workshop. He therefore states that in order to avoid unnecessary trouble on the part of all concerned the practice now adopted at the Home Office is to accept the certificate on the assumption (1) that the practitioner is in a position to say that the patient is employed in connexion with a given factory or workshop in which from the nature of the work carried on risk of lead poisoning may reasonably be anticipated, and (2) that no case will be notified in which this is not so. In reference to the notification of recurrences Dr. Whitelegge says that there can be no question that if the affected person continues to work in lead successive attacks, especially when distinct from the preceding, should each be notified. We commend a perusal of the memorandum to all those practitioners who are likely to meet with cases of plumbism arising in the manner named in the Act.

THE SCHOTT TREATMENT OF FATTY HEART

THE *New York Medical Record* of March 24th contains an article on this subject by Professor Theodor Schott, M.D., of Nauheim, in which he criticises various other modes of treating fatty degenerations of the heart and ends by defining the conditions under which the treatment associated with the names of himself and his brother may be expected to give the best results attainable. As is well known this system consists in the careful use of finely graduated exercises, of suitable diet, and of baths. Professor Schott is opposed to all systems of dealing rapidly and severely with accumulations of fat. The variations of obesity in the human body are remarkable. It is said of the late pretended Sir Roger Tichborne, whose immense shoulders will never be forgotten by those who saw them during his trial, that he varied within a comparatively short period between 11 st. and 25 st., the variation doubtless being mostly in fat. The dietary which Professor Schott thinks most conformable to the reliable investigations of Pettenkofer and Voit is that of Oertel. But unfortunately Oertel combined with their formulæ a severe reduction of liquids and the well-known climbing exercises—the effect of which was often the very opposite of that desired—viz, the production of an insufficiency of heart muscle. Experiment shows that the fat and muscles of the body may be much reduced without any appreciable diminution of the heart fat. The mechanical part of the treatment requires as much discrimination as the dietetic. Oertel's climbing treatment has often been followed by injurious consequences and is now largely abandoned. It may come in at the end of other mechanical measures, but never at the beginning. The mechanical treatment in Professor Schott's system consists in exercises of resistance or self-resistance, and has been previously described by himself and his brother. Professor Theodor Schott thinks it can be safely undertaken in all the different forms of fatty heart which are not too far advanced. Similarly when the degenerative process is not far advanced the balneological and hydro-therapeutic part of the Nauheim treatment comes into use. It consists of "baths of gradually increased concentrations of salt, as well as baths with increased quantities of carbonic acid gas, and it is especially in fatty heart cases that we can have early recourse to the use of Sprudel- and Sprudelstrom-bäder (effervescent running baths)," unless there are contra-indications thereto, such as chlorosis, anæmia, rheumatic or arthritic complaints, or old age, all of which require a warmer temperature; the baths are generally commenced at a temperature of from 88° to 86° F., with a duration of 10 minutes. It is claimed for this balneological-gymnastic system, in combination with the dietetic treatment, that with no loss of weight a decrease of the panniculus adiposus and

of the abdominal masses of fat may be demonstrated and that the symptoms of fatty heart disappear.

THE DIAGNOSIS OF MEDIASTINAL GROWTHS.

WE published last week the account of two interesting cases of mediastinal growths which came under the care of Dr. H. J. Campbell and Dr. H. C. Major at the Bradford Royal Infirmary. The account of these cases is worth more than passing attention. The earliest symptoms noticed were due to the involvement of the spinal cord by the tumour. The diagnosis of a mediastinal growth is exceedingly difficult in the earlier stages, and it is usually not until pressure effects are produced, extensions occur, or secondary deposits are formed that the presence of a tumour in the mediastinum is suspected. The frequency of the occurrence of mediastinal growths varies greatly in different districts; in some parts they are decidedly rare, but in others they are common. Hesse, in the *Archiv der Heilkunde* for 1878,[1] states that in the mines of the Schneeberg 75 per cent. of all the miners die from "cancer of the lung" spreading from the root; the growths when examined proved to be lympho-sarcomata. Specimens from a case in many respects closely resembling the cases recorded by Dr. Campbell and Dr. Major were shown by Dr. T. S. Short at a meeting of the Midland Medical Society in 1894, and were recorded in the *British Medical Journal*.[2]

A COMPLIMENT TO THE LANCET.

OUR Special Correspondent in Berlin writes to us as follows: It will be of interest to the readers of THE LANCET to know that that journal was mentioned in complimentary terms during a recent debate in the Prussian Diet. In the discussion on the budget Herr von Knappe, a Conservative member, asked the Minister of Education if the Government intended to take measures which would have the effect of admitting pupils of the Realschulen to the study of medicine. The Realschulen differ from the Gymnasia by the preponderance of modern languages and natural science over the study of Greek and Latin which are the principal subjects in the Gymnasia. Hitherto it has been essential for medical students to have previously been pupils of a Gymnasium. Herr von Knappe in the course of his speech expressed the opinion that it was highly desirable for medical students to know enough English to be able to read English medical journals. He said that he was informed that a medical man who desired to keep abreast with the progress of medical science must read the leading English medical journal, THE LANCET. As English is taught in the Realschulen only, their pupils were therefore better prepared for the study of medicine than those of the Gymnasia. The Minister answered that the Prussian Government had considered the matter, but that the individual States of the Empire were not competent to decide questions relating to medical study which was one of the subjects reserved for discussion by the Federal Council where all the States were represented. The Prussian Government meanwhile has brought a motion before the Federal Council providing that the pupils of Realschulen may become medical students. This step will certainly disappoint a good many medical men who are afraid of an increase in the present overcrowding of the profession through the threatening invasion of it not only by the pupils of the Realschulen but also by female students. They are, moreover, of opinion that if the pupils of the Realschulen are admitted to the study of medicine they ought also to be at liberty to enter the other university faculties, such as those of theology, law, &c., for if not then the public would come to believe that for the study of medicine less educational preparation was required than for the other branches of knowledge taught in the universities. The Practitioners' Association some time ago petitioned against the admission of pupils of the Realschulen to medical study, but its interposition was unavailing.

[1] Quoted in Fagge's Medicine, third edition, vol. ii., p. 120.
[2] Brit. Med. Jour., Nov. 3rd, 1894.

THE MENTAL CHANGES IN SYDENHAM'S CHOREA.

Dr. Joseph Collins and Dr. J. Abrahamson of New York city have published in the *Philadelphia Medical News* of Feb. 24th, 1900, a valuable clinical study of chorea consisting of observations made on 100 consecutive cases at the New York Post-graduate Medical School. The ages of the patients varied from four years (the age of the youngest) to 25 years (the oldest), the average age being nine years. In addition to the ordinary physical symptoms the mental condition was particularly observed in these 100 patients. Dana in his Text-book of Nervous Diseases (1893) states that "the mind in chorea is usually dulled, the temper irritable, and the child hard to manage," and mentions particularly a maniacal chorea characterised by great mental excitement, with delirium and hallucinations. In the 100 cases studied by Dr. Collins and Dr. Abrahamson the mental condition was sufficiently changed in 54 cases to be noteworthy, and the various special characteristics were as follows. There were mental apathy and listlessness in 23 cases and a deeper degree of depression (mental torpor) in four cases. A mild degree of dementia was observed in three cases, while 27 presented the opposite condition of mental excitability or gave evidences of acute fright and terror. It thus appeared that rather more than half of all the patients showed distinct mental symptoms, whence Dr. Collins and Dr. Abrahamson conclude that clinically the chorea of Sydenham is not infrequently accompanied by noteworthy mental deterioration.

FIRST AID TO THE INJURED.

THE report of Surgeon-Major J. de Z. Marshall, A.M.R., and Mr. Charles J. Trimble, the judges for the St. John Ambulance Brigade between the teams competing for the ambulance competition conducted at Crewe on March 29th, presented to the directors of the London and North-Western Railway, is one of considerable interest in that it contains comments which should prove useful to ambulance teams throughout the country. After expressing their satisfaction with the general efficiency shown in the most important but often neglected part of ambulance training—namely, stretcher work—the judges go on to state that the treatment of bleeding was generally practical and good, especially where the operators without removing one hand from pressure on the main artery converted a triangular bandage or handkerchief into a tourniquet with the disengaged hand and one foot. In some instances, however, no attention was paid to the bleeding vessels, with the result that when first aid was rendered the judges were of the opinion that the patient was dead. They also point out that more care should be exercised in placing the patient in a recumbent position and in raising a bleeding limb. On the other hand, the resuscitation of the apparently drowned was not so satisfactorily performed. It is suggested that nervousness and anxiety to excel in the competition were in some cases responsible for the failure of the competitors in this latter portion of the examination, and this may be so; but in a country like England it is most important that those who profess to be able to render first aid should be efficient in the practice of artificial respiration. At a time when everybody's attention is more particularly directed to the casualties of battlefields it is perhaps not surprising that members of ambulance classes should look upon

the treatment of bleeding as the all-important part of first aid, but, as we have said, the resuscitation of the apparently drowned is equally of importance, and it is to be hoped that where such good work has been done in one department excellence in both will soon be shown. The report states that the Wolverhampton team, being the champion team of the year, will again represent the London and North-Western Railway Company in the St. John Ambulance Association Railway Competition, the "preliminary" for which will be held at King's Cross Station, London, on April 26th.

THE MEDICAL REGISTER FOR 1900.

THE Medical Register for 1900 has made its appearance. As on previous occasions we have been able to find upon the official roll of the profession the names of several dead men, although our inspection has been as yet of the hastiest description. Where the Register is incomplete or incorrect in the matter of addresses or qualifications of living members of the medical profession the fault is clearly in the first instance on the side of the practitioners who do not keep the Registrar adequately informed upon these points in spite of his entreaties and warnings. But when a man is dead he cannot write to say so himself, and there may be no onus upon anyone else to say it for him. It is time that the General Medical Council recognised this and devised some machinery whereby the official roll of the profession could be corrected from the obvious sources of information. We wonder when a reply was last received from Dr. G. McF. Lawson, who, if we credit him with having taken the degree of M.D. Edin. at the age of 21 years, must be 103 years of age. Surely it will soon be this gentleman's turn to be written to in the ordinary precautionary course, even if the date of his medical qualification does not suggest the advisability of exceptional treatment. Surely, again, the Registrar ought to have been aware of the death of the medical bishop of Bloemfontein, Dr. John Wale Hicks. An obituary notice of this distinguished medical graduate, who died just before the commencement of the South African war, appeared in almost every newspaper in the kingdom.

THE RATIONALE OF THE TREATMENT OF ANÆMIA BY IRON AND ARSENIC.

DR. F. APERTI has published a valuable paper devoted to the above subject in the *Centralblatt für Innere Medicin* of Jan. 6th. From careful observations carried out for several years in the clinic of Professor Riva it had been found that the use of injections of iron and of arsenic had different results in the primary anæmias. Thus it was found that while iron increased the amount of hæmoglobin in the red corpuscles arsenic increased only the number of the red corpuscles. The experimental work referred to in the paper was undertaken to determine the conditions of the blood (both as regards corpuscles and hæmoglobin) after a small amount of blood had been abstracted and also when iron was given with the food; and also to ascertain the influence of arsenic and iron upon the regeneration of the blood in animals from whom blood had been repeatedly withdrawn and whose food and nourishment were free from iron. From these experiments it appeared that two things were necessary for a complete regeneration of the blood,—viz., a restitution of the protoplasm of the red corpuscles and a sufficiency of iron for the production of hæmoglobin. When no iron was given in the food the iron necessary for the formation of hæmoglobin had to be obtained from the liver and from other organs of the body where hæmoglobin and iron were deposited. If iron was withheld from the food too long the blood, and finally the body tissues, lost their hæmoglobin and the animal died apparently from profound anæmia and exhaustion. Dr. Aperti found from careful chemical analysis that when the period of profound anæmia and of grave exhaustion had been reached the iron in the liver was greatly reduced, so that the amount in this organ fell as low as that contained in the spleen and muscles, while the amounts in all three organs were considerably below those in the organs of healthy animals. In animals rendered slightly anæmic by bleeding or by withdrawing all iron from the food the administration of arsenic caused a very considerable increase in the number of red corpuscles but none in the amount of hæmoglobin. Injections of iron now caused a very striking increase in the hæmoglobin, the amount almost doubling itself in seven days, rising in this time from 50 per cent. to 95 per cent. Repeated experiments gave the same results and confirmed the belief that the two substances act differently, and that while the arsenic increases the number of red corpuscles the iron increases the total quantity of hæmoglobin. A rational basis is thus afforded for the therapeutic use of these drugs

LONDON SMOKE AND LONDON FUMES.

THE first annual report of the Coal Smoke Abatement Society has recently been published and shows that very useful work has been done. Since receiving this report we have been able to chronicle three more cases where the society has been of great use to the community by promoting successful prosecution of the owners of the ill-behaving chimneys. And now we would suggest to its executive the possibility of making an attempt to protect the stateliest and one of the most ancient of London's historic buildings. A short time ago an announcement was made in the *Times* that a question would be asked in Parliament with regard to the condition of the stonework at the Chapter House of Westminster Abbey which it was stated had been injuriously affected by the fumes from the chimneys of some manufacturers. The fact that very many stone buildings of London have been injuriously affected by smoke and fumes has been a well-recognised fact for a very long time, but until recently nothing has been proposed by way of prevention or of remedy. Of late, however, experiments have been made with a view to protect the surface of the stone by a local application of some substance which it was hoped would modify or neutralise the action of the fumes. The matter is still being investigated, but it is to be feared that any local application to the surface of the stone which is likely to be beneficial for its preservation will at the same time destroy the beauty of its surface, in which case the strong remedy might be considered worse than the wasting disease. The chief hope for improvement in the future must be looked for in the abolition of the acid fumes, and if the Coal Smoke Abatement Society can help in this matter it will perform a great work. Would it be possible for the society to ascertain exactly what harm has been done and exactly who is responsible for the damage? The society, we learn from Sir William Richmond's report, needs more subscribers. It has at present only 400 members and the work which it wishes to undertake requires an income of not less than £1000 a year. A glance at the balance sheet of the society shows that the money at the disposal of the executive has been most judiciously spent. Unlike many other somewhat similar societies nothing has been wasted in the useless multiplication of tracts, advertisements, and essays. The money has been spent in actual useful work and the society certainly deserves the support of all those who are interested in the improvement of the atmosphere of London and the protection and cleanliness of its public buildings. It should have many more subscribers and we are a little surprised to find that among medical men it is practically unsupported. To ask the executive to undertake such a task as the

prosecution of all whose business works may have a hand in damaging Westminster Abbey and at the same time to point out the slenderness of the resources of the society is not as illogical as it seems. If the society were known to be intending to undertake a task of such national importance we believe its subscriptions would increase enormously.

THE FORMATION OF RENAL CALCULI.

DR. M. L. HARRIS in a contribution to the *Journal of the American Medical Association* of March 17th, points out that in the formation of renal calculi something more than the mere presence of uric acid is required. In the case of gall-stones recent investigation has shown that micro-organisms in the form of colonies may afford a nucleus for the deposition of the biliary calculus, and Dr. Harris believes that renal calculi may also be produced by similar agencies and that they may be thus of bacterial origin. Among the clinical signs which may be present are blood, pus corpuscles, epithelial cells, and bacteria in the urine, together with the usual local pains of renal colic. The presence of a slight amount of blood in the urine, especially after riding and driving or jolting of the body, would add weight to the diagnosis of renal calculus, and Dr. Harris points out that the collection of urine from the separate kidneys by catheterisation of the ureters would definitely settle any doubts as to the diagnosis. The employment of the x rays is also recommended as an aid to the detection of renal calculi. The medicinal treatment is entirely symptomatic, and the only radical cure for calculus is a surgical operation. In operating the kidney should be exposed by the lumbar incision and carefully palpated, and if any stone is felt it should be reached by incising along the convex border. After the removal of the stone the kidney should be flushed with warm salt solution and hæmorrhage should be controlled by the application of hot water and pressure. In those cases where a septic condition is found and where the kidney is infiltrated with pus it may be necessary to perform nephrectomy. The microscopical and bacteriological examination of the urine is of primary importance, and especially should this be done where catherisation of the ureters has been performed and the urines of the two kidneys have been separately obtained.

A TELEGRAM from the Governor of Mauritius, Sir Charles Bruce, has been received by the Colonial Office stating that for the week ending April 12th one fresh case of bubonic plague had occurred and no deaths.

THE Penal Cases Committee of the General Medical Council is expected to meet on April 26th in anticipation of the meeting of the General Medical Council on May 22nd.

THE Society for Visiting Hospitals in their report for the year 1899 state that their work has gone on steadily during the past year. 3903 patients have been visited in the hospitals and 892 in their own homes. The visitors to the hospitals and the assistants in their visits to the convalescents in their own homes have done good and efficient work. The convalescents who leave the comforts with which they are surrounded in hospital while they are still weak and suffering and often without the means of procuring the necessaries of life, are cheered and consoled by the visits of the assistants, who give them timely pecuniary aid and also help them by friendly counsel and advice to carry out the good resolutions they formed whilst on their beds of sickness. The lack of means to help cases of distress is, however, most keenly felt by the society, who appeal for increased subscriptions. During the year under notice there has unfortunately been a falling-off in funds.

Obituary.

SIR WILLIAM PRIESTLEY, M.D., LL.D., F.R.C.P. EDIN., F.R.C.P. LOND., M.P.

SIR WILLIAM OVEREND PRIESTLEY, whose death occurred upon Thursday, April 12th, after a long illness, was the son of the late Joseph Priestley, formerly of Morley Hall, Leeds, by Mary, daughter of Mr. James Overend of Morley. He was a member of a family for ever celebrated in the scientific world as having produced the discoverer of oxygen. He was born in 1829 at Churwell, near Leeds, and was educated at the University of Edinburgh and King's College, London. He also studied in Paris, as was in his day a very usual proceeding with successful students. And Priestley was a very successful student, winning prize after prize until in 1853 he took the degree of M.D. at the University of Edinburgh as Senate Gold Medallist of his year. He now became physician's assistant to Sir James Y. Simpson, and that eminent and influential man did much to forward the after career of a favourite pupil, and the debt of gratitude which Priestley felt that he owed was paid in a graceful manner by the editing of certain of his old master's works in connexion with Dr. Horatio Storer of Boston. In 1856 Priestley came to London and commenced to practise as a physician, being also appointed a lecturer at the Grosvenor-place School of Medicine and lecturer on Midwifery at the Middlesex Hospital. In the same year he married Eliza, daughter of Robert Chambers of Edinburgh, a member of the celebrated Scottish publishing firm. His wife, though but a girl, knew all Edinburgh intellectual society intimately at a time when Edinburgh was generally, and without much exaggeration, called the "Modern Athens," and as a consequence Priestley started his London career under highly favourable auspices, both professional and private.

In 1863 Priestley was elected Professor of Midwifery and Diseases of Women and Children in King's College, London, and physician-accoucheur to the hospital upon the resignation of Dr. Arthur Farre. His election was not without opposition, for there were men already connected with the hospital who resented the introduction of a man from without to be placed over their heads; but Priestley's real merits combined with Sir James Simpson's influence secured the post for him. It must be remembered that the editor of Simpson's memoirs necessarily occupied a place of some significance in the fields of gynæcology, for Simpson was a great discoverer in these fields, especially in such practical directions as the invention and perfecting of artificial aids to diagnosis. Priestley's connexion with King's College Hospital began inauspiciously, for in the same year that he was elected he contracted a very severe attack of diphtheria. It was some months before he was able to return to work and his duties as lecturer were undertaken by the late Dr. Charles West, who in return for his services was elected an Honorary Fellow of King's College. At the time of Priestley's election 10 beds were placed at his disposal in the hospital for the reception of poor married women during their confinement with a view to the special training of midwifery nurses, and for the first six years that he held office this arrangement remained in force. But upon his recommendation the ward was closed to midwifery cases on account of the very high mortality which prevailed among the patients admitted for delivery. In 1872 Dr. Priestley resigned his post at King's College when he was elected consulting physician to King's College Hospital, later being made an Honorary Fellow of the College; and although his active attention upon the sick and duties towards the students then ceased he for many years was one of the most energetic members of the council, when his voice was always raised on the side of right. He now had a very large obstetric practice, probably the most lucrative in London until the advent of Dr. Matthews Duncan, and if he never occupied in the scientific world quite the standing of the late Dr. Braxton Hicks or Dr. Robert Barnes he was considered by his colleagues a very sound practitioner. It must be remembered that when he entered the medical profession the modern means of exploring the pelvis were not known; the province of gynæcology was accordingly more confined, so that the passage of a sound or the employment of an injection might be the limits of procedure

where now much more rigorous and intelligent methods could be employed. This is not said with any idea of detracting from Priestley's recognised position as a leader in his speciality, and when the Queen selected him as accoucheur to two of the princesses the medical profession felt that the honour was such as he had deserved by his experience and practical wisdom. In 1893 he was knighted in recognition of his medical services.

In 1896 he was elected to the House of Commons without contest as Member for the Universities of Edinburgh and St. Andrews in succession to Sir Charles Pearson, who was elevated to the Scottish Bench. His election was warmly welcomed by the medical profession, for not only had it been felt that a University so distinguished upon medical grounds as Edinburgh should occasionally be represented in Imperial Parliament by a medical *alumnus*, but it was also believed that Sir William Priestley was particularly likely to turn out a successful and influential legislator whose voice would be raised with intelligence upon medical questions. His career in the House was too brief for us to gauge exactly how far this expectation was realised, but to some extent he exercised a real influence in relation to many legislative measures connected with the public health. He was marked out early by his Parliamentary colleagues and by the Government as a wise counsellor, and his personal bearing in the House, which was a happy blend of dignity and good natured courtesy, much increased the value of his advice. Two measures of great medical importance came before the House during his membership—viz., the Vaccination Act of 1898 and the Bill for the Registration of Midwives. His views with regard to the latter were never formulated, we believe, in so many words, but he is understood to have been opposed to the Bill unless he could be satisfied that its provisions were not virtually an infringement of the Medical Acts. Undoubtedly his absence from the debates upon the Bill was a great loss to the medical profession, for the matter was one that he would have been able to speak upon with the particular authority of his medical position, while the incorrect statements made in the House of Commons with regard to the attitude of the General Medical Council or the medical corporations towards the proposed legislation would have received contradiction. To the debate on the second reading of the Vaccination Bill—afterwards the Vaccination Act of 1898—Sir William Priestley made an important contribution. He pointed out in clear non-technical language that in his opinion the employment of glycerinated calf-lymph systematically should remove the most serious apprehensions of the conscientious objector, while he expressed approval of domiciliary vaccination and called pointed attention to the omission in the Bill of all mention of revaccination. Later, in Grand Committee, he carried an amendment against the Government with the assistance of Sir Charles Cameron, Sir Charles Dalrymple, and Mr. Monk, whereby a parent opposed to vaccination was given a second opportunity of considering the matter when the infant in question had reached five years of age. Sir William Priestley thought that when a child reached the age of five years the objection of the parents to vaccination might have ceased, especially as it might be thought that a five year old child would bear the operation more easily than an infant. He argued that during the first five years of life the danger from small-pox was incurred chiefly by the family of the infant, but afterwards, the school age having been reached, the unvaccinated child became a danger to the whole community. The working of Sir William Priestley's clause has still to be tested, but the spirit of the amendment is characteristic of its author's wisdom and moderation. These qualities, we may add, were precisely the ones that gave Sir William Priestley a position of some importance in the House of Commons in other matters less distinctly medical than questions of vaccination or the regulation of the practice of midwives. He was felt by his leaders to be a capable man of wide sympathies but also of prudent as well as just instincts, consequently he was often asked to give his opinion. With such a reputation, and supported by a successful past and the fact that he represented an important constituency, it is possible that Sir William Priestley would have gone far politically, although he did not enter upon politics until the beginning of the evening of his days and when he was slightly deaf.

In private life Sir William Priestley was a kindly man and a most excellent host, and the hospitality of his house in Hertford-street was proverbial. Pasteur and Oliver Wendell Holmes may be mentioned as two persons of world-wide celebrity who made this house their headquarters, while some of the most distinguished persons in our own country have at one time or another diverted themselves within its walls.

A charming characteristic of Sir William Priestley, and one that did much to enhance his social popularity, was his keen sense of humour and quick repartee. Two examples of the latter may be quoted, although many of our readers may have already heard them. On one occasion his wife was regretting the way in which he was overworked, adding that she was sure he would die in harness. "Well, if I do," he replied, "it will only be to put the *bit in your mouth*." On another occasion when crossing the ocean from America he was feeling very badly when his wife, who was a good sailor, remarked cheerfully that she never knew him get so little out of a *berth* (birth) before. "Ah, yes," he replied dismally, "it is a case of *mal de mère*."

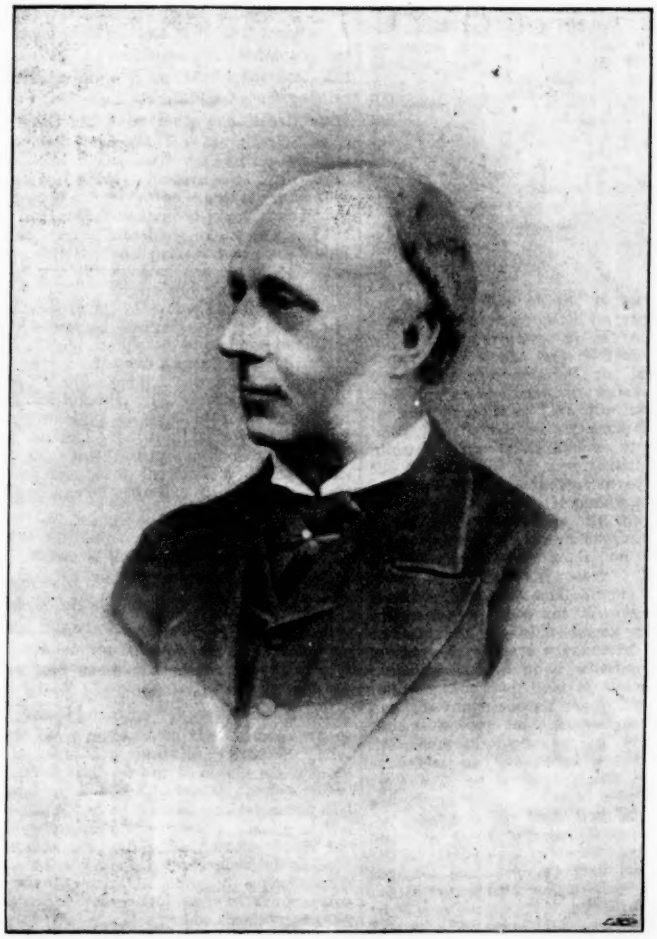
A friend of 35 years writes as follows, and in so doing sums up gracefully the general estimate of his character: "One of the kindest and most amiable members of the profession has gone to his rest. He leaves a happy memory behind him. He did his work well, always with thoroughness and a nice sense of honour. Sensitive by nature, he remained guileless, and even under provocation was gentle. He spoke ill of no man and always followed the things that made for peace. He was the best of friends and companions, sympathetic and true, a capital sportsman, and endowed with a saving grace of humour. How he enjoyed to hear and relate a good story! His influence was always for good, and he advocated, as he always took, the highest line of procedure in practice. We shall long miss our genial and wise friend. The blank his departure must make in his own and many other circles is too sad to contemplate. Let us be thankful we have had him. We can never forget him."

Sir William Priestley was apparently in his usual health till the middle of last December, when jaundice suddenly supervened. This was attributed to a severe chill experienced when out shooting and it was unaccompanied by any pain. The jaundice deepened and there was progressive wasting and loss of strength. He was moved from his country house in Sussex to London towards the end of January and he never went out again. The absence of obvious signs of gross organic disease inspired him with the hope that his ailment, though rebellious to treatment, was of a simple character. His medical attendants, however, from an early period had fears that it was significant of obstruction of a grave nature. He bore his increasing weakness and weariness with the grace and equanimity which always characterised him. The propriety of surgical interference was at one time carefully considered and the opinions of Mr. Godlee and of Mr. Mayo Robson was taken with respect to this. No operative measures were, however, deemed advisable. Latterly Sir William Priestley suffered from abdominal pain and his powers failed rather rapidly. He was attended throughout his illness by Sir Dyce Duckworth, Dr. Kingston Fowler, and Dr. Barlow, and was frequently visited by his attached friend Lord Lister. Dr. Robert Priestley, the elder son of Sir William Priestley, was also assiduously in attendance. A necropsy revealed the existence of a new growth in the pancreas. This was never detectable, though not unsuspected, during life.

The funeral took place on Saturday last, April 14th, and was numerously attended. The first part of the service was held at Christ Church (Down-street), Mayfair, and subsequently the interment took place at St. Margaret's, Warnham, Sussex. At the funeral Dr. Church represented the Royal College of Physicians of London, and Sir Dyce Duckworth the University of Edinburgh, while Dr. R. C. Priestley and Mr. J. C. Priestley, the sons, were also present. Lady Priestley received a kind message of sympathy from the Queen and a letter of condolence from the Princess Christian of Schleswig-Holstein.

JOSEPH CAVE SPICER JENNINGS, F.R.C.S. ENG., L.S.A.

MR. JENNINGS died at his residence, Abbey House, Malmesbury, Wiltshire, on April 8th, in his eighty-third year. He was the son of the Rev. W. Jennings, of Baydon, Wiltshire, and received his medical education at King's College and Middlesex Hospitals. He took the qualifications of L.S.A. in 1839 and M.R.C.S. Eng. in 1841, and in 1876 he was admitted F.R.C.S. Eng. In 1841 he commenced



SIR WILLIAM OVEREND PRIESTLEY, M.D EDIN., F.R.C.P. LOND.,
MEMBER OF PARLIAMENT FOR THE UNIVERSITIES OF EDINBURGH AND ST. ANDREWS AND CONSULTING PHYSICIAN (LATE OBSTETRIC PHYSICIAN) TO KING'S COLLEGE HOSPITAL.

practice in Lacock, Wiltshire, where he remained for 10 years and then removed to Malmesbury. Mr. Jennings was the principal promoter of the Malmesbury Waterworks Company, and chairman of the directors. The springs and the well from which the water-supply comes were found on his land. Mr. Jennings was a prominent member of the local archæological society and he has many times entertained the members when visiting the town. It was a great pleasure to him to take a party over the Abbey, and also to show them the fine old Elizabethan building in which he had resided for a great many years. The poor of Malmesbury have lost in him a kind friend.

JOHN UNDERWOOD, M.D. EDIN., M.R.C.S. ENG., L.S.A.

A VERY familiar figure has been removed from medical circles in Hastings by the death of Dr. John Underwood, which occurred at his residence in Wellington-square on April 10th. Dr. Underwood, who was the oldest member of the profession in the district, had lived in retirement for several years and had been ailing since last September. He was born in November, 1816, at Pitsford, Northamptonshire, in which county his family had been long established, some of his ancestors having lent horses to the Royalist forces at the battle of Naseby. Dr. Underwood received his medical education at Edinburgh and graduated there as M.D. in 1841; he also took the diploma of L.S.A. in the same year and that of M.R.C.S. Eng. in 1842. He commenced practice at Battle in 1842 and removed in 1855 to Hastings, where he spent the remainder of his life, retiring from professional work about 1893. Dr. Underwood was quite one of the old school. He never took any part in public affairs nor did he ever court popularity in any shape or form. Devoted to the care of his patients, he was much esteemed and respected by them, and ever ready at the call of duty, he spared no pains in behalf of those who sought his advice He was a great lover of nature and as long as his health and strength permitted he enjoyed angling and following the hounds. The funeral, which took place at the Borough Cemetery on April 14th, was attended by a large number of medical practitioners, a wreath being sent by the East Sussex Medico-Chirurgical Society, of which deceased was the oldest member in the district. Dr. Underwood was a widower and has left two daughters.

WALTER CLEGG, M.R.C.S. ENG., L.S.A.

THE death is announced of Mr. Walter Clegg, which occurred on April 16th, in his eightieth year. Having studied at Guy's Hospital he obtained the qualification of M.R.C.S. in 1843 and that of L.S.A. in the following year. Journalism as well as medicine had some attractions for him, and almost immediately after becoming qualified he founded the *Boston Guardian*, the oldest penny paper in Lincolnshire. Subsequently he went as a surgeon to the Crimea, where he was attached to the 2nd Battalion Rifle Brigade. His journalistic experience enabled him to obtain while there the post of correspondent to the *Illustrated London News*. When he returned to England he took an active part in the municipal affairs of Boston, and was made a justice of the peace in 1867, afterwards occupying the mayoral chair for two successive years. Among the other offices which he held were those of medical officer of the borough, a post which he relinquished only three years ago, and of coroner for the Boston District of Lincolnshire; he discharged the duties attached to the latter appointment with zeal for some 40 years. His death will be felt by a wide circle of friends.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Friedrich Aub of Munich, President of the German Medical Association. For many years he was a member of the Bavarian Parliament and was a very effective speaker.—Dr. H. Saxtorph, formerly Professor of Clinical Surgery in Copenhagen.—Dr. A. Murillo, Dean of the Medical Faculty of the University of Santiago, Chili.—Dr. John A. Murphy, formerly Professor of Medicine in the Miami Medical College, Cincinnati.—Dr. Johann Hofmokl, Extraordinary Professor of Surgery in the University of Vienna.

THE WAR IN SOUTH AFRICA.

WE have to add our hearty congratulations to those which have crowded in upon Sir George White, from Her Majesty downwards, on his safe arrival in this country. Sir George White has, as anybody knows, passed through a remarkably trying experience since he left these shores for South Africa of which he probably had not even the faintest idea when he started. We are rejoiced to learn that his health has been vastly improved by the voyage and promises to become thoroughly re-established. That the privations, responsibilities, and anxieties which he underwent during the long and trying siege will have left no mark behind them is scarcely to be expected, for these things are not easily effaced. The sponge of time cannot obliterate them from the mind although it may blot out all physical traces of them from the body. In a brief, soldier-like, and modest speech, thanking the authorities at Southampton for the reception which they had accorded him, the late defender of Ladysmith principally dwelt upon the spirit exhibited by the garrison which he had commanded. The occupation of Ladysmith at the beginning of the war was an unfortunate but unavoidable "entanglement" under the then existing circumstances, in that it frustrated for the time being the British plan of military operations against the Boers. Mr. Treves was a fellow passenger with Sir George White on board the *Dunvegan Castle* and also received a cordial welcome on the part of the bystanders, in which we heartily join.

The Boer plan at the present time is really a guerilla system of warfare with its rapid movements, ambushes, raids, and surprises—at all of which tactics they have shown themselves very skilful. We have already passed through many acts of the South African war drama and are now about to enter upon what may possibly be the final one. At the time we write orders have been issued by the military authorities temporarily prohibiting the transmission of any messages respecting the movements of the British. This is significant and has been hitherto indicative of the fact that such movements are not only impending but will shortly come off. There will probably be, in the first place, an attempt to intercept, surround, and capture the Boer force, which has pushed far to the south on the Basutoland border in order to besiege Wepener. The Boers have, however, shown themselves such adepts in getting out of "tight" places that it does not always do to calculate upon what, strategically speaking, seems pretty certain. The question as to the immediate advance of General Buller's column will probably depend upon whether the Boers in its front are relinquishing their hold of their position or not by retiring over the Biggarsberg. As to Mafeking all we really know is that it is very hard pressed by attacks from without and deficiency of food supplies within, but it seems highly probable, as the relief of Mafeking was stated some time ago by Lord Roberts to be engaging his serious attention, that a force may be secretly advancing to its succour. We have now in the aggregate an immense force in South Africa at the Commander-in-Chief's disposal. The troops are well supplied with everything necessary for an advance; they are, as a whole, in excellent health and spirits, and as their confidence in the success of what they are about to undertake seems unbounded we may safely be partakers in the feelings and belief which animate them. A multitude of brave soldiers have, unhappily, found their burial-place in South African battlefields which have also proved the graveyard of some military reputations. Although it must be admitted that there have been some regrettable mistakes and blunders it may be safely said that there has never been a war in which our regimental officers and men have shown to greater advantage or displayed greater courage, cheerfulness, devotion to duty, and mutual trust and confidence in one another, whilst in no campaign has there been exhibited less vindictiveness or more consideration to brave foes. The conduct and spirit of the British troops—colonial, regulars, and volunteers alike—have been admirable and irreproachable. We have often said that, after all, we do not believe that the army of any other Power would have done better, if so well,

under conditions of a similarly exceptional and difficult nature. The theatre of war covers an immense area. Bloemfontein is some 300 miles from Pretoria and 700 miles from Cape Town, and it is essential to the security of an advancing force that the lines of rail and communication should be safeguarded. This is now believed to have been done.

In any chronicle of the war the losses which we have sustained are well worthy of being recorded from time to time.

A revised official statement of casualties reported since the beginning of the war, up to, and including, April 7th, shows these results:—

Officers killed	211	
Officers died from wounds	48	
Officers died from disease	47	
Officers died from accidents	3	
Non-commissioned officers and men killed	1,960	
Non-commissioned officers and men died from wounds	465	
Non-commissioned officers and men died from disease	1,485	
Non-commissioned officers and men died from accidents	34	
Total deaths		4,253
Officers wounded	627	
Non-commissioned officers and men wounded	9,883	
Total wounded		10,510
Officers missing and prisoners	168	
Non-commissioned officers and men missing and prisoners	3,722	
		3,890
Grand total		18,653

To these, however, must be added 29 officers and 1828 men who have been invalided home sick (as distinct from wounded). The proportion of deaths from disease again shows an increase. It amounted to a fraction over 36 per cent. last week, as against 33 8 the preceding week. The proportion of deaths from wounds has also gone up slightly, being now 5·1 per cent. of the total injured.

Since our last report H.M.S. *Powerful* has returned to Portsmouth from the seat of war. From this vessel there were employed in the defence of Ladysmith 292 officers and men and about 50 marines on the Modder river under Lord Methuen. Of the total force sent to Ladysmith 37 were either killed or have died, and of the 34 who were left behind at the Cape some have died since the *Powerful* left the station, so that 221 of the Ladysmith force came home in the ship.

We have no reliable lists of the casualties among the Boers, but the total number of these from all causes must be heavy. It is lamentable to reflect upon all the sacrifices and suffering which this war has entailed upon a brave but misguided people in furtherance of an unwise and ambitious policy on the part of their rulers.

The war is not over and there may yet be a good deal of severe fighting before it is finished. It is only necessary to glance at the official lists of the losses from enteric fever, dysentery, and other diseases incidental to field service to see, too, the price which we have already had to pay and to realise that Sir Alfred Milner struck the true note when he said recently to a deputation at Cape Town: "The longer the struggle lasts, the greater the sacrifices which it involves, and the stronger must be the determination of us all to achieve a settlement rendering a repetition of this terrible scourge impossible." To agree to any compromise that would have any ambiguity about the future rule of South Africa "would not be magnanimity, but ingratitude to the heroic dead and cruelty to unborn generations." Our readers will be glad as well as proud to have noticed the eulogistic terms in which the German medical attachés, Dr. Schmidt and Dr. Krummacher, on their return to Germany, spoke of the work done by the Royal Army Medical Corps and how they recognised the efficient organisation of the war hospitals and medical service generally, as well as the heroism, cheerfulness, and good humour of the British soldier in war.

The numerous societies in this country that have been organised for the support and aid of the wounded and sick soldiers and their wives and families and for affording assistance to the officers as well as the men taking part in this war are working with an enthusiasm which is quite remarkable and inspiriting.

The War Office has recently issued a memorandum of the arrangements made for dealing with the sick and wounded arriving at home from South Africa. It states that on arrival at the port of disembarkation sick and wounded will be sent direct to one or other of the larger hospitals in accordance with instructions which will be supplied. The hospitals which are likely to be so utilised and which for the purpose will be regarded as general hospitals are the Royal Victoria Hospital, Netley; the Herbert Hospital, Woolwich; the Cambridge and Connaught Hospitals, Aldershot; and the station hospitals at Devonport, Colchester, and Shorncliffe. The memorandum gives instructions for dealing with men transferred to station hospitals and convalescent homes, the method of sick transport, the treatment of sick and wounded officers, and the modes of making statistical returns.

The war which Mr. Kruger forced upon this country will, apart from its immediate object, inevitably bring about some great changes and improvements in the way of the consolidation, organisation, and strengthening of our Imperial forces as a whole which will, we venture to think, be productive of a vast amount of good.

We may, in conclusion, here make a passing allusion to the series of letters which have been appearing in the *Times* from a special correspondent under the heading of "Our Wars and our Wounded." These communications deal *in extenso* with the organisation and arrangements of the army medical service as a whole, and require to be more deliberately considered and dealt with than comes within the scope of an article like the present.

(NOTES FROM SIR WILLIAM MAC CORMAC.)

(*Continued from p. 961.*)

VISIT TO KIMBERLEY.

On Feb. 21st I arrived at Kimberley, having travelled from Modder river on one of the military railway trains which had only started running the day before. As we neared Kimberley our train was greeted by much cheering from the windows and gardens of the suburban houses, the inhabitants being still under the influence of the excitement following the relief of five days before. The railway station presented the appearance of a place which had been locked up for some time. Porters and ticket collectors were absent—probably still employed as soldiers in one of the various local corps. No supplies had yet arrived for the town except those from the Red Cross Society, which were pushed through at once upon the completion of the repairs of the railway.

We walked from the station to the Club House through several streets, and beyond the marked fewness of inhabitants walking about there was nothing particularly noticeable about the town which would lead one to suppose that the place had been undergoing a siege of four months. Here and there a shell hole in the street, in a garden wall, or a galvanised iron fence perforated by shrapnel bullets met the eye, and many cottages were barricaded in front with sandbags as a protection against the shells, but the traces of damage done were not very apparent and were far between.

A few more weeks would undoubtedly have caused much suffering among the inhabitants from the scarcity of food, but the relief came before the food question had really become acute. It is true that horseflesh was freely used towards the end of the siege, but this was made into very good soup with vegetables. Soup was also supplied by the De Beers Company every day at a certain time (and on a large scale). The appearance of the people one met was not unhealthy or suggestive of suffering in any way, with the exception that on closer acquaintance it was seen that many people had become much shaken and nervous—anxiety as regards their families, shortness of money, and the uncertainty of the future having all aided to upset the nervous organisation in those having a neurotic tendency.

I was informed that only ten civilians were killed by shells during the siege and one of these, unfortunately, was the clever American employé of the De Beers Company, Mr. Labram, who had made that wonderful breech-loading gun, known as "Long Cecil," which threw 28 lb. shells with deadly accuracy amongst the besiegers. This gun was commenced and completed in the exceedingly short period of three weeks. It was a shapely weapon and its workmanship would have done credit to any Government workshop.

The number of wounded in Kimberley at the time of my visit was comparatively small. Most of the patients in the

hospitals were suffering from medical complaints. Among the wounded the largest number had only been in hospital for a few days, their wounds having been incurred during the engagements at the time of the relief (Feb. 15th). General French came into the town in the evening quite unexpectedly, left his wounded behind, and was off at daybreak the next morning. The enemy had beaten a most precipitate retreat from Magersfontein and Spytfontein, but they managed to carry their guns with them. The medical arrangements in Kimberley on my arrival were as follows, and I investigated them carefully, being consulted on my several visits to the various hospitals concerning all the serious cases.

Lieutenant C. J. O'Gorman, R.A.M.C., was the sole military medical officer in Kimberley when the siege began, as there was only a small detachment of 500 regular troops there when the war broke out. The medical arrangements for so small a body of men consisted of a couple of marquees, but an improvised military hospital was soon arranged through the kindness of the Roman Catholic Sisterhood of Nazareth, who occupy a pleasantly situated and conveniently arranged building ("Nazareth House"), which was placed at the disposal of Lieutenant O'Gorman. It was soon equipped by the military authorities with everything requisite for a hospital; the beds, utensils, and, in fact, nearly all the articles required were bought locally, and the services of the Sisters themselves were gratefully accepted for the nursing duties. This house provided four excellent wards, beautifully clean and comfortable, and the patients appeared to have everything desirable for their welfare. The total number of beds was 45, nearly all occupied. Many of these patients, however, were convalescent and some of the other cases were not serious. I append a note of the only interesting case concerning which I was consulted in this hospital. On the stairway of this house stand the fragments of a burst shell which fell into the convent garden during the siege, the only present evidence of what this kind Sisterhood had passed through.

1. *Wound of the femoral artery.*— Private —— was wounded on Oct. 24th, 1899, by a Mauser bullet. The entrance wound was at the junction of the middle and lower thirds of the right thigh anteriorly, and that of exit was at the same level as the entrance wound. Entering from the postero-internal aspect of the thigh the bullet traversed the thigh without injuring the femur, the artery being bruised on the antero-internal side in Hunter's canal; 13 days after the receipt of the injury the arterial wall gave way and the extravasation which ensued, the external wound having healed, produced a pulsating tumour. A fortnight later (four weeks from the date of the injury) the sac was cut down upon, laid open, and the artery ligatured above and below the seat of injury near the termination of Hunter's canal. The vein having been also found to have been injured was doubly ligatured as well. The collateral circulation has now (Feb. 21st) been fully established and the man is doing quite well.

Immediately opposite to Nazareth House stands the Kimberley High School. This has been converted into the second half of the military hospital and can accommodate 39 patients. The rooms are large and commodious, well ventilated, and clean. The nursing is provided for by the employment of local nurses. The total number of sick and wounded in the whole hospital on the day of my visit was 75, the total strength of beds being 84. The cooking for both houses is done by the Royal Army Medical Corps. The staff consists of Lieutenant O'Gorman, one sergeant, one corporal, and two men. Now that Kimberley is open a larger staff of officers and men will immediately be despatched thither and before I left arrangements were already in progress to forward field hospitals from Modder river in order to provide for the wounded who were expected to arrive from Lord Roberts's front at Paardeberg.

My visit to the hospital was on the afternoon of my arrival, and on satisfying myself with the military medical arrangements I proceeded to the large civil hospital which contains many wounded soldiers and has been intimately connected with the military element since the war began. This hospital is considered to be the finest in South Africa. It is built on modern lines and supplied with all modern hospital conveniences. Griffiths, a former and favourite house surgeon of mine, recently died here while acting as resident medical officer. As nearly all the troops in Kimberley during the siege consisted of local volunteers, constituting the Diamond Fields Artillery and the Kimberley Light Horse, the wounded of these corps have been brought as a natural consequence to their own hospital. I also found, in addition to these wounded, some of our own cavalrymen who had been brought in from General French's column. The total number of beds in this hospital is 270, and about 100 of the cases were those of wounds. I was consulted concerning many of these cases by the civilian surgeons in charge and particularly visited all our wounded officers and men. I append a few of the more interesting cases found in this hospital; and also that of a child, wounded by a shell during the siege, under the able charge of Dr. A. H. Watkins who gave me the notes. Dr. Russell, the resident surgeon, proposes to publish later full details of all the cases.

2. *Wound of the knee-joint.*—The patient, Lieutenant ——, of the Scots Greys, was wounded on Feb. 15th at a range of 400 yards at Kimberley by a Mauser bullet. The entrance wound was found to be situated anteriorly on a level with the upper border of the left patella, in a line corresponding to its inner margin—i.e., about a quarter of an inch from the upper inner border of the bone. The wound of exit was in the median line at the inferior angle of the popliteal lozenge, thus traversing the joint from before backwards. The joint is moderately distended with fluid (Feb. 22nd). The anterior wound is closed. There is slight bloody discharge from the exit wound. The temperature is normal. The inner condyle of the femur must have been perforated, but there is no evidence of complete fracture of the femur. This officer is doing quite well and I assured him that he would, in my opinion, have a moveable joint and be able to ride.

3. *Wound of the neck.*—Lieutenant ——, of the Scot Greys, was wounded on Feb. 16th at Kimberley by a Mauser bullet. The entrance wound was at the anterior margin of the right sterno-mastoid muscle on a level with the upper border of the thyroid cartilage. The wound of exit was at the level and two inches to the right of the second dorsal spine through the trapezius muscle. Both wounds healed and the patient is convalescent and without symptoms.

4. *Wound of the lung.*—The patient, Bombardier ——, of the Royal Horse Artillery, was wounded on Feb. 16th at Kimberley by a shrapnel bullet over the third rib on the left side one inch from the sternum. The bullet emerged at the tenth interspace on the left side, two inches from the spine. At the present time (Feb. 21st) there are hæmoptysis, dyspnœa, and cough. The temperature is 103° F. Pneumothorax and pneumonia are present. It is wonderful how the bullet escaped the heart and great vessels. The condition of this patient is serious but lately he has improved.

5. *Wound of the lung.*—Gunner ——, of the Royal Horse Artillery, was wounded on Feb. 15th by a shrapnel bullet which entered over the sixth rib in the anterior axillary line on the right side and which was cut out on the next day from a point over the ninth costal cartilage, on the same side, an inch from the middle line of the body posteriorly. There are no symptoms. The wounds have healed and the patient is convalescent.

6. *Wound of the lung.*—This patient, Trooper ——, of the Kimberley Light Horse, was wounded by a Mauser bullet which entered at the seventh right intercostal space, in the posterior axillary line, and emerged through the lower costal cartilages in the left nipple line. Some effusion of blood in the left pleural cavity was present on his admission. Nearly 30 ounces of fluid blood were extracted by aspiration shortly after admission and some days later about the same quantity of bloody serum was withdrawn. The patient remained for about six weeks in hospital, during which time the temperature was never high, but there was a persistent evening rise, possibly due to malaria, of which complaint the man had an old history. The patient is now completely recovered and has rejoined his troop.

7. *Wound of the chest.*—Lieutenant ——, of the Imperial Light Horse, was admitted to the Civil Hospital, Kimberley, suffering from a wound which had been caused by a Martini-Henry bullet. The bullet had made a diagonal wound across the direction of the lower costal cartilages through which a finger could easily be passed from either end. The entrance wound was in the left mamillary line through the lower costal cartilages, and the bullet had emerged about an inch lower externally and posteriorly on the same side, dividing several of the cartilages in its transit. The abdominal cavity did not appear to be opened by the bullet but the pleural cavity was. After doing well for a time the patient about the third day developed symptoms of septic peritonitis and

died on the fifth day. The post-mortem examination disclosed the fact that the peritoneum had not been contused by the bullet nor was the cavity opened by the injury, and the peritonitis was due to a perforation caused by a dysenteric ulcer in the descending colon; several partially healed ulcers were present in the vicinity. The patient had evidently been suffering from an untreated attack of dysentery when he was wounded.

8. *Shell injury.*—I saw in one of the wards under Dr. A. H. Watkins's care a poor little child, four years of age, who had been wounded by a splinter of shell during the Kimberley siege. The right elbow joint had been completely shattered, the forearm being left attached by the soft parts to the arm upon the flexor aspect by only about one-third of its circumference. There were likewise a lacerated wound of the neck and two lacerated wounds of the abdominal wall, neither penetrating the abdominal cavity. There was also a ragged wound of the upper part of the right thigh, with a compound, comminuted fracture of the upper part of the femur. This wound was situated about an inch below Poupart's ligament and to the outer side, well outside the line of the femoral vessels. The wonder is that the child did not die from shock or from exhaustion. Subsequently Dr. Watkins operated in the following manner. The blood-supply in the forearm being but little impaired, about two inches of the lower end of the shattered humerus, together with the articular surfaces of the radius and ulna, were removed. The elbow was then treated as after a formal excision. This wound is now healed four and a half weeks after the receipt of the injury, and there is every prospect of the child having a useful moveable joint with considerable shortening of the upper limb. There is already control over the movements and no apparent risk of flail joint, which is satisfactory after such free removal of bone. The fractured thigh was treated upon a double inclined plane. Some suppuration took place, necessitating a counter opening at the posterior part of the thigh, when some bone fragments were removed, but no shortening has occurred.

9. *Shell injury.*—A brother of the child mentioned in the preceding case, who was some years older than the former patient, was also wounded by fragments of the same shell. The left arm was nearly torn off, necessitating amputation at the shoulder joint. There was also extensive injury to the head and face and the poor boy died on the same day.

10. *Shell injury.*—The mother of the two children whose cases have been given was struck by the same shell, her right fibula being fractured, accompanied by a very severe lacerated wound of the leg. The limb was amputated above the knee two days after the receipt of the injury. The woman is now convalescent.

11. *Wound of the neck.*—Major —— was wounded at Modder river on Nov. 28th, 1899, by a Mauser bullet which entered through the anterior margin of the right sterno-mastoid muscle behind the angle of the jaw and a little above the level of the hyoid bone. The bullet emerged

FIG. 1.

Wound of entrance.

FIG. 2.

Wound of exit.

posteriorly on the left side of the neck at the level of the sixth cervical spine and two inches distant from the middle line. This officer had returned to duty when I saw him at Jacobsdal, his only complaint being a certain amount of numbness in the palm of the left hand. All the important structures of the neck appear to have escaped serious damage in a marvellous manner.

On Feb. 22nd I accompanied Lord Methuen round the hospitals upon the occasion of his official inspection. He expressed himself as being particularly well pleased with all that he saw and the wounded men unanimously expressed their high appreciation of the care and comfort which were lavished on them. In addition to these ordinary hospitals the De Beers Company have a special Kaffir hospital of their own with which they provide for their small army of native employés when they fall ill. These are about 12,000 in number.

There does not appear to be any endemic disease peculiar to the Kimberley district and the siege has not exercised any deleterious effect upon the mortality except amongst the children.

There is a large establishment at Kimberley known as the "Sanatorium." It was built and is now kept up (at a loss) by the De Beers Company as a convalescent home, more especially for the treatment of cases of phthisis, and where invalids may take up their quarters on payment in most cheerful and pleasant surroundings. During the siege Mr. Cecil Rhodes made this building his headquarters and from its roof he spied out the positions of the enemy. The latter continually attempted to shell the building, but could never get the range and failed to do it any damage. Two or three wounded officers were living there as guests of Mr. Rhodes and I was consulted upon my arrival concerning an old-standing wound of one of them.

NOS. 1, 2, AND 3 GENERAL HOSPITALS.

We left Kimberley on Feb. 24th and after a long, tedious journey by train reached Cape Town on the 26th.

On Feb. 27th I visited Nos. 1 and 2 General Hospitals at Wynberg, this being my third visit to these places. I found everything working in a most satisfactory manner and I consider that the large number of sick and wounded who have passed through these hospitals during the last four months have been cared for in a very efficient and satisfactory way. I was unable to obtain the actual figures recording the number of wounded treated in No. 2. General Hospital in time for this letter, but the work in this hospital as well as in No. 3 General Hospital at Rondebosch has been pretty much upon the same lines as that conducted in No. 1 General Hospital, and the report I here append of the amount of work done in No. 1 General Hospital may be taken to apply to the work in No. 2 and No. 3.

No. 1 General Hospital.—Total admissions from Nov. 1st, 1899, to Feb. 27th, 1900, 2199. Officers: wounded, 110; sick, 128; number of deaths, 7. Men: wounded, 944; sick, 1017; number of deaths, 27. Deaths from wounds: officers, 4; men, 18. Deaths from disease: officers, 3; men, 9. The following cases at present under treatment in No. 1. General Hospital may be of interest:—

12. *Wound of the lungs.*—Lieutenant —— was wounded on Feb. 7th by a Mauser bullet at Koodoosberg Drift at a range of 500 yards. The bullet entered two inches beneath the inferior angle of the right scapula, passed across both lungs, and made its exit at the upper part of the anterior fold of the left axilla. There was hæmoptysis for a fortnight. There is also a hæmothorax on the left side, which is undergoing a process of steady absorption. The condition of the patient is satisfactory.

13. *Wound of the lungs.*—The patient, Lieutenant ——, was wounded at Paardeberg Drift on Feb. 18th by a Mauser bullet at a range of 500 yards. The wound of entrance was situated one and a quarter inches below and slightly internal to the right nipple. The bullet had first gone through a silver cigarette case. It found egress through the eighth rib on the left side in the mid-axillary line. There were mild dyspnœa and pain over the lower end of the sternum, with profound collapse for a few hours at first, from which the patient rallied under suitable treatment. This officer is perfectly fit and well at present.

14. *Wound of the lung.*—This patient, Lieutenant ——, was wounded at Paardeberg Drift on Feb. 18th at a range of 800 yards by a Mauser bullet which entered at a point an inch below the centre of the right clavicle and emerged through the right scapula near its inferior angle. There were some dyspnœa and slight hæmoptysis with a limited degree of hæmothorax. The patient is now perfectly convalescent.

After my visit to Wynberg we proceeded at once to Rondebosch, where I re-visited No. 3 General Hospital and the Portland Hospital, and I consider that the condition in which I found these two hospitals reflects the greatest credit

upon the medical officers in charge. Any further description of these hospitals would be superfluous, as they are in much the same condition as when I visited and described them in January last. I append notes of a few cases concerning which I was consulted during my visit.

15. *Wound of the thorax.*—The patient, Private ——, was wounded by a Mauser bullet at Hobkirk's Farm at a range of 150 yards. The entrance wound was in the third interspace two inches vertically above the left nipple, and the wound of exit was in the eighth interspace on the left side in the posterior axillary line. There was slight hæmoptysis for a few days but absolutely no other symptom, and the man is now convalescent. How did the heart and great vessels escape, I wonder?

16. *Wound traversing both thighs and the femur.*—Private ——, of the Victoria Infantry, was wounded on Feb. 12th at a range of 300 yards. The bullet entered at the level of the tip of the left great trochanter and an inch behind it and its point of departure was just below the tip of the right great trochanter; it caused a comminuted fracture of the right femur, high up. A large amount of swelling and extravasation in the perineum took place at first, but there was no evidence of any injury to the urethra or the rectum. The man is rapidly improving and the repair of the fracture is proceeding satisfactorily.

17. *Wound of the neck.*—Private ——, of the 1st Essex Regiment, was wounded on Feb. 18th at Paardeberg Drift by a Mauser bullet which went through the right sterno-mastoid muscle two inches above the clavicle and came out just below the level of the greater cornu of the hyoid bone on the left side and an inch from the median line. A certain amount of aphonia followed which is now rapidly improving. There were no other symptoms and the man is well.

18. *Wound of the chest.*—The patient, Private ——, was wounded at Paardeberg by a Mauser bullet on Feb. 18th. The entrance wound was just below and slightly external to the left coracoid process, and the wound of exit was about half an inch to the right of the fourth dorsal spine. There were irregular paralysis and loss of sensation in the left arm. It is difficult to say what nerves are implicated. In other respects the man has quite recovered without symptoms.

19. *Wound of the lung.*—Private —— was wounded at Klipsdrift by a Mauser bullet, the entrance wound from which was situated in the second intercostal space, three inches to the left of the sternum. The exit wound was in the fifth space, in the posterior axillary line on the left side. At present the symptoms are hæmothorax on the left side, with dyspnœa and hæmoptysis. The temperature is 101° F.; the wounds have healed. The condition of the patient is apparently free from all urgency.

20. *Wound of the pelvis.*—Private —— was wounded by a Mauser bullet at Rensberg on Feb. 12th. The entrance wound was at the centre of the right buttock and the wound of exit was half an inch vertically above the right pubic spine. There is extreme hyperæsthesia of the right lower limb, but no motor paralysis, and there is no evidence of any visceral injury whatever. The man is quite convalescent.

21. *Wound of the lung.*—Private —— was wounded by a Mauser bullet at Slingersfontein on Feb. 12th at the close range of 100 yards. The entrance wound was behind, three-quarters of an inch below the left acromio-clavicular articulation, while the wound of exit was near the left costal margin three and a half inches vertically beneath the left nipple. Slight hæmoptysis and dyspnœa made their appearance at the time of the injury, and at present there is dulness of the thorax on the right side up to the level of the fourth rib. There are also 40 minor shell injuries on various parts of the body. The man is doing quite well.

VISIT TO LADYSMITH.

On March 3rd I and my secretary again set sail in the s.s. *Norman* for Natal with a view of visiting Ladysmith. As it is probable, however, that there will be no more fighting of any moment on the Natal side now that Ladysmith is relieved, the number of surgical cases requiring consultation or operation will of necessity be soon exhausted. The dearth of new cases also will undoubtedly relieve the great tension thrown upon the medical organisation in Natal, and the rapidity with which the majority of the Mauser bullet wounds heal ought to enable the wounded in hospital in Natal to be greatly diminished by evacuation towards the base during the next few weeks. The uncertainty of the future military movements is obvious and the unexpected often happens; still, one may conjecture that no forward movement will be made towards Pretoria from Ladysmith, as the army would have to dispute the extremely strong positions in the vicinity of Laing's Nek and Majuba. It is proposed to form a large medical centre at Bloemfontein when this town is captured, and should the Natal army advance in the direction of Van Reenen's Pass (the only route, apparently, open to it) it is presumed that the wounded would be more likely to reach Bloemfontein than to be sent back across a trainless stretch of country to Natal.

On March 7th we arrived at Durban where I learnt that it would be possible for us to visit Ladysmith and return to Durban in sufficient time to catch the German mail-steamer leaving for Aden on the 10th. The distance from Durban to Ladysmith is 196 miles. We left in the evening at 5 40 o'clock and reached Colenso about 6 A.M. This village, which resisted our advance for so long a time, afforded many points of interest to those who, like myself, had worked within sight of it during the action of Dec. 15th, 1899. The houses have been destroyed in a wanton manner and show evidence of the unsavoury occupation of the Boers. There are many graves of dead horses and several of these mounds, collected together near the river, indicate the spot where we lost the guns under Colonel Long of the Royal Artillery on Dec. 15th. This village on my visit, however, was merely used as a wayside station and beyond the regulation medical arrangements provided for the few troops quartered there presented no features of surgical interest.

The iron railway bridge which was blown up by the enemy is in rapid process of reconstruction, but as yet one can only cross the Tugela by a foot plank bridge. The rush of water is very strong and rapid in the river and it does not require any excessive exercise of imagination to convince one of the difficulties experienced by our men in crossing the stream under heavy musketry fire. Having passed the river we were taken aboard another train which conveyed us some 16 miles to Ladysmith. The country in the near neighbourhood of the river is of a very rugged and precipitous character. We passed many dead horses, and here and there a British grave and cross marked the last resting place of some of our men. In one grave we heard that 28 were buried, but we saw none of the evidences of dead Boers which have been reported to line the road to Ladysmith. The various points of interest which have been made historic by reason of the siege came into view one by one as we proceeded. Umbulwana Hill, which the big Boer gun had occupied for so long, was passed on our right, and Wagon Hill and Cæsar's Camp on the left, where the furious fighting of Jan. 6th took place. The kopje where Sir Archibald Hunter in a brilliant night march destroyed one of the big Boer guns (Lombard Kop) was also pointed out, and the mighty mountain range of the Drakensberg loomed in the distance, and then we reached Intombi railway station. This is a recently erected little platform where the trains from Ladysmith deposited their sick and wounded for the hospital there, the ground in this vicinity having been declared neutral by arrangement between General Sir George White and General Joubert. This camp is situated about five miles from the town and consists of a hospital and tents erected as shelter for women and children. A large assemblage of tents of many patterns occupies one side of the railway—this is the hospital. On the other side of the line are situated the picturesque but rather uncomfortable tarpaulin shelters among which are intermingled a sprinkling of white tents; here the Indian dhoolie-bearers, camp-followers, and women and children live.

The history of this large hospital is unique in the annals of war and no one can fail to be at once impressed with the difficulties and trials undergone by the patients and by the Royal Army Medical Corps since it was first decided to obtain protection in this way for the sick and wounded and for the helpless women and children from the shell fire in the town.

As I have already said, a convention was made between General Sir George White and General Joubert that the above-mentioned piece of ground, called "Intombi," which lay quite near Bulwana, should be regarded as neutral, and orders were received by the principal medical officer of Ladysmith (Colonel Exham, R.A.M.C.) on Nov. 4th, 1899, at 10 P.M., that the sick and wounded, women, children, and civilians of the town should proceed at once to the place selected, and 24 hours were allowed as the period in which the exodus must be accomplished. The first train started at 8 A.M. on Nov. 5th. An ox managed to get in the path of the engine and blocked the

line to such an extent that a delay of three and a half hours was caused to the train, and only at 12 o'clock did this train reach its destination. The remainder of the people were got through within the stipulated time.

Intombi is a level plain of grassland, bounded by Intombi spruit and the Klip river on one side and on the other enclosed by a range of horseshoe hills from 500 to 1000 feet high, of which Umbulwana, 2000 yards away, was the nearest.

The following hospital equipment and *personnel* were at once established:—1. Tents for the accommodation of 300 beds, with the *personnel* of No. 12 Field Hospital under Major Love, R.A.M.C. 2. Half section of No. 26 British Indian Field Hospital, 50 beds under Major Kerin, R.A.M.C., assisted by one other officer, four assistant surgeons I.S.M.D., and 86 natives (including 56 coolies). 3. Headquarters No. 1 Stationary Field Hospital, Natal Field Force, 280 beds, under Major Bruce, R.A.M.C., assisted by two other officers of the Royal Army Medical Corps, six civilian surgeons, and 52 non-commissioned officers and men. 4. Natal Volunteer Field Force Hospital, 70 beds, under Captain Currie, Natal Carabineers, assisted by three volunteer medical officers and 18 non-commissioned officers and men. In addition to the above there were brought on that occasion three days' supplies of food, in charge of a sergeant of the Indian Commissariat, six tanks of water, and one truck-load of firewood. Before unloading the train a parade of the dhoolie-bearers was held when it was found that in the accident to the train on the way out 34 of these men had been injured and rendered unfit for work. Four camps were immediately worked out and tents were erected so that by 6 P.M. when the first train-load of patients arrived 100 beds were ready to receive them and a plentiful supply of hot beef-tea was waiting to cheer them. It must be noted in connexion with this work of erecting this large camp that the working staff was very small indeed, and that they had to work for 24 hours without any proper sleep, rest, or food. The Indian section had only just arrived from Dundee with a party of wounded and had obtained no regular rest or food for three days previously; it became therefore almost impossible for a time to get any more work out of them. The last party of wounded from the town arrived at 10 P.M. and were comfortably arranged for in the train itself, which was left standing until sufficient tents could be erected on the next morning. In addition to the wounded, 1200 civilians—European and native—arrived under the command of the resident magistrate. These erected their own camp on the further side of the railway line. On the completion of the hospital camps the provision of a water-supply and questions of sanitation had at once to be considered.

Drinking-water.—At first the purity of the drinking-water was arranged for by precipitation with alum, followed by boiling and filtration. Later, when affairs became more organised, a more elaborate system of water-supply was provided, under the management of Sergeant-Major Bruce, R.A.M.C. Barrels were sunk in the shallow river-bed and a plentiful supply of clear water was pumped up from them by a fire-engine into zinc cisterns on the bank, having a total capacity of 5000 gallons. Three-quarters of a gallon per head was drawn from this supply and passed through Pasteur-Chamberland filters for distribution for drinking, and one gallon per head was distributed direct from the tanks for cooking purposes.

The sanitary corps.—As the locations of the various tents could not be changed to any great extent owing to their small number compared to the number of patients and the overwork of the staff, the disposal of the nightsoil of the large number of infectious cases was deemed to be of vital importance with regard to the purity of the atmosphere. Gangs of coolies were organised to go round the camp every two hours from 6 A.M. to 7 P.M. and to fill in the latrine trenches with lime and earth, and pits were dug so as to form a smaller surface for distribution and consequent diffusion of effluvia by wind.

On Nov. 11th, 1899, two cases of enteric fever were admitted to hospital from Ladysmith, and this was but the beginning of an epidemic which was the cause of 1000 cases of enteric fever out of a total garrison strength of 12,000. In addition to the enteric cases, 400 cases of dysentery gradually made their appearance. Then, upon the top of these troubles, a very natural result came about—viz., that sickness broke out amongst the Royal Army Medical Corps itself, officers and men. This caused a great increase of duties among those of the corps remaining well. Something had of necessity to be devised in order to relieve the strain. The general officer commanding issued an order that civilians from the town must volunteer to act as nurses and workers in the hospital. These civilians would not come forward, although they duly drew their daily supply of rations. At last the order was issued: "No work, no rations." This had the effect of driving some of the loafers over to the Boer lines, but it had also the desired effect of supplying the necessary help for the hospital. This help was, however, of a very unsatisfactory nature. Petty thefts and attempts at shamming sick hampered the over-worked and half-starved officers and increased rather than diminished their troubles. On account of economising the time necessarily spent in nursing one helpless enteric case these were distributed equally over the hospital and in three weeks a hospital of 300 beds expanded to 1900. In connexion with the rapid increase of the hospital establishment I append a table indicating a comparison between the available medical staff at Intombi Hospital and the numbers laid down for the same number of beds by the regulations according to war scale.

Staff at Intombi for 1900 beds.		Regulation war scale for 1900 beds.
Officers of the Royal Army Medical Corps	11	
Civilian surgeons	9	
Volunteer surgeons	2—22	81
Non-commissioned officers of the Royal Army Medical Corps	21	
Civilian assistants and non-commissioned officers	17—38	112
Men of the Royal Army Medical Corps	69	
Volunteer Medical Staff	163	
Civilians (pressed)...	128—350	508
Army nursing sisters	5	
Civilian nurses	27—32	36
Dhoolie-bearers	56	
Indian coolies...	31—87	—
Ladysmith native labourers	379	—

At first there was no officer of the Army Service Corps or Ordnance Corps available for duty, so that the commissariat and ordnance responsibilities of the camp devolved upon the principal medical officer and his secretary. On Dec. 31st, 1899, depôts for the above corps were formed so that the officers of the Royal Army Medical Corps were relieved of those duties. Among the large number of patients in hospital only 350 were suffering from wounds. Of these, 200 cases were examined by the x-ray apparatus and very many interesting photographs have been preserved. Of course, the greater portion of the responsibility of this large establishment fell upon the shoulders of the Royal Army Medical Corps, the civilians being apportioned off to the various units under the command of the former. At one time out of a strength of 69 men of the Royal Army Medical Corps 17 were in hospital, and in one section where there were only 12 officers and men of that corps seven were laid up in hospital at one time, four of these with enteric fever and two with dysentery.

On Dec. 15th, 1899, after the battle of Colenso, the question of the food-supply began to give rise to serious anxiety, and when it became certain that General Buller had failed in his relief expedition arrangements had to be immediately made with reference to the holding out of the supplies until a second attempt might perhaps prove successful. On Dec. 19th a limit of two pints of milk per diem for each fever patient was fixed. On Jan. 28th—after the unsuccessful attempt of the relieving column at Spion Kop—the quantity for each fever patient was cut down to 12 ounces twice a day. On that date there were 900 cases of fever in hospital. In addition to the milk there was available for those patients for whom such diet was considered necessary the special hospital diet arranged for—viz., two ounces of stimulants, two ounces of cereals, half an ounce of bovril, one and a quarter pounds of beef (for beef tea in lieu of bovril), five ounces of sugar, and tea and bread if they could be taken. The ordinary patients were provided with one pound of beef.

Later this quantity was cut down to 12 ounces and such things as potatoes (issued at first) became but a reminiscence. During the later days, when even the condensed milk-supply would not hold out, a stock fluid was devised, nine gallons of which were made each morning and evening according to the following receipt:—

Oat, rice, or barley flour, three pounds; water, nine gallons; boil for an hour and strain. Baked flour, three pounds; water, half a gallon; boil for ten minutes. Add these two fluids together and mix with them three-quarters of an ounce of sugar for each person. 12 ounces of this mixture were doled out to each fever patient twice daily. The other patients were put upon short ordinary rations.

Nominal roll of officers (Intombi).—Lieutenant-Colonel R. W. Mapleton, R.A.M.C., principal medical officer; Major Westcott, R.A.M.C., secretary to the principal medical officer. In charge of x-ray work: Lieutenant Weld, R.A.M.C., from Oct. 12th to Nov. 20th, 1899; Major Westcott, R.A.M.C., from Nov. 21st to Feb. 28th, 1900. The operating rooms were in charge of Major Westcott, R.A.M.C., Major Bruce, R.A.M.C., and Captain Currie, Volunteer Medical Service (Colonial).

On leaving Intombi we proceeded at once to Ladysmith town. The railway station was crowded upon our arrival with representative officers of all the corps in Ladysmith who had assembled to say *au revoir* to General Sir George White upon his departure for Pietermaritzburg. A glance at the haggard faces of the crowd showed one at once what privations our people must have undergone during the last few weeks of the siege. Even the best of them were very thin, and when we had time to inquire into the history of those last few weeks as regards the food-supply and illness we were not surprised at what we had seen. General White, who looked ill, left very shortly after by the train in which I arrived.

I met General Sir Archibald Hunter (an old friend) at the station, who took me under his charge to the house which had been the headquarters of General Sir George White. I there met the principal medical officer, Colonel Exham, R.A.M.C., from whom I learned many interesting medical details of the siege. The most serious difficulties which had to be met during the earlier days were those connected with the safety of the wounded from the enemy's shell-fire. In this respect the hospital buildings, wherever they might be, always seemed to be the very hottest corners. A very suitable and commodious hospital had been organised in the town-hall before Intombi Hospital was started. A visit at present, however, to this building speaks for itself as to why it was deserted by us. The tower of the building is ruined from the effects of shell-fire, and the room which had been fitted up with much trouble in this building as an operating room is now filled with a mass of débris and presents many marks of shell-fire. The ordinary field hospitals were of necessity kept in the town with their brigades so that they might be ready for any march or sudden manœuvre of our army. These were quite separate from the Intombi Stationary Hospital. Only the serious cases of wounds and illness were transferred to Intombi by train, the ordinary slighter cases of daily occurrence being provided for in the field hospitals. The officers in charge of these hospitals showed much ingenuity and the men performed much labour in their endeavours to provide places of safety for the sick under their care. At last they found a safe place in the shape of a deep ditch or nullah—the bed of a small stream—in the near vicinity of the headquarter house. By digging a series of gutters the Royal Army Medical Corps formed this location into a well-drained and comparatively healthy site. The heavy rains in the ordinary course of events had filled up this ditch whenever a storm arose, but the drainage which I have mentioned provided for this emergency. It was found, also, that the spot was perfectly safe from the shell-fire. On the relief of the town these hospitals were at once transferred to the galvanised iron hospital buildings about a mile outside the town to the north. These form very suitable hospital quarters, consisting of a series of buildings like barracks, but the many evidences of shell-fire in their vicinity and the very numerous perforations in the galvanised iron walls and roofs caused by shrapnel bullets afford sufficient explanation as to why these buildings could not be used as a hospital during the bombardment. These buildings were in full use on the day of my visit and in huts close by lived the medical officers and the assistant surgeons of the Indian Medical Subordinate Service. The officers had amused themselves by painting various names upon the doors of their domiciles, such as adorn suburban villas in England, but these were mostly of an amusing or national character, such as "Auld Reekie," "The Nursery," &c. They had occupied these buildings before the place had become so dangerous and many are the tales recorded of hairbreadth escapes from shells. A combined stable of their horses had been arranged in a small outhouse behind these huts in which all the horses were accommodated, but unfortunately a shell came one day and killed the whole lot. Many picturesque groups of Indian dhoolie-bearers with their dhoolies lay about between the hospital buildings, and Red Cross wagons were drawn up in rows at convenient sites. A dhoolie is a large stretcher covered with a canvas roof and curtains, carried upon the shoulders of the bearers by means of a long bamboo pole from which the stretcher is suspended.

Fortunately for the welfare of the hospitals not only had a large supply of surgical dressings and medicines been received at Ladysmith by the principal medical officer immediately before the siege began, but he assured himself also that the druggists' shops in the town were well supplied. In spite of this large supply, however, the drug supply became very short indeed before the end and the town had to be foraged for the purpose of finding drugs. These, many of them in a crude state, were made up into the usual compounds required for fevers and dysentery—notably Dover's powder and salicylate of soda.

22. *Pelvic wound.*—At the Intombi Hospital Major Westcott, R.A.M.C., told me of a remarkable case. Major ——, was wounded at Ladysmith by a bullet which entered the abdomen one inch above the pubes and slightly to the left of the middle line. Thence it passed downwards and backwards and through the left ischio-rectal space to emerge close to the left margin of the anus. There was no hæmaturia, no blood passed by the rectum, and there were no symptoms of any kind whatever. This officer in a very short time was enabled to return to duty.

23. *Wound of the spleen.*—In another case related to me by Major Westcott this issue was not so fortunate. The bullet entered below the margin of the seventh costal cartilage on the left side and emerged in the posterior axillary line through the ninth space on the same side. The man showed every symptom of severe internal hæmorrhage. An exploratory operation was performed to discover the source of the bleeding. It was then found that the abdomen was full of blood and that the spleen had been traversed by the bullet. The abdomen was cleared of blood and the wound in the spleen was plugged with gauze, but the man succumbed four hours later, chiefly from the previous loss of blood.

In addition to the troops in garrison the surrounding hills were, of course, constantly occupied by detachments of soldiers. These detachments relieved each other at intervals, but each position required the constant attention of an officer of the Royal Army Medical Corps who remained at the post. This arrangement, although absolutely necessary, very much weakened the strength of the available officers in the hospitals. In short, the whole medical staff was desperately undermanned and overworked, and this condition of affairs became yet more serious when the food-supply ran short and the officers themselves became ill from short and unwholesome rations. Towards the end things came to such a pass that only a biscuit and a half a day were served out to each officer and man in addition to a small supply of horse and mule meat. An officer related to me an incident which will serve to illustrate the lengths to which things had gone as regards food. A shell fell into the mule lines one afternoon killing one mule. In spite of other shells following the first one in rapid succession so as to make occupation of the spot very dangerous, the men in the vicinity made a rush at the mule like so many ravenous creatures, cutting the flesh off with their clasp-knives in great chunks. They then in safer quarters built fires, toasted the meat, and swallowed it at once. To make them more palatable the men fried their biscuits in the axle-grease provided for the carts. The want of fatty foods and vegetables was greatly felt. In spite of all their hardships nobody ever thought of giving in. The General inquired as to how many horses in the camp could carry their riders six miles—in view of a sortie being made—and the answer came back that only 12 horses in the whole camp could do it.

The whole of the Royal Army Medical Corps are looking fearfully pulled down and tired out and I hope that all will

get that change and rest which they so well deserve and so much need. The sick and wounded are being evacuated steadily and as rapidly as possible to a more healthy environment.

We left Ladysmith on the evening of March 9th, reaching Durban on the morning of the 10th in time to board the ship for the East African Coast and England.

WILLIAM MAC CORMAC.

HOSPITAL ARRANGEMENTS IN THE SOUTH AFRICAN WAR.

BY S. OSBORN, F.R.C.S. ENG.,
CHIEF SURGEON, METROPOLITAN CORPS OF THE ST. JOHN AMBULANCE BRIGADE.

This war has upset many of our former ideas as to military surgery. Many seriously wounded men, suffering from injuries which would, ordinarily speaking, have demanded operative measures, recover without surgical interference, whilst others beyond such interference necessarily die. Whether the former result is due to the excellent antiseptic dressings adopted as first field dressing or to the nature of the projectile is doubtful, but I incline to the idea that it is due to the antiseptic precautions which have been resorted to. Compared with the Crimean struggle, which brought Miss Florence Nightingale to the front, the ambulance and nursing organisations of the present day sustain the same relationship as the delicate mechanism of a modern watch holds to the rude ploughshare, whilst it is infinitely in advance, in point of comprehensiveness and efficiency, of anything which has been seen before even in so recent a campaign as that in the Soudan. Neither in the Franco-German war, nor in the war between Russia and Turkey, not to speak of the late Turco-Greek war, in which I was engaged, was the attempt to save the lives and limbs of the wounded made on anything like the scale which we see in South Africa to-day.

The care of the wounded falls naturally into two divisions—their rescue and their treatment, in which latter category I place that most essential of all kinds of treatment, their nursing.

As regards the rescue of the wounded, it is impossible to admire too much the devotion which has been shown by the ambulance section of the army or the completeness of the machinery by which the efforts of these men have been seconded. Every engagement has witnessed scenes of heroism in which the officers of the Royal Army Medical Corps and their civilian and medical bearer helpers have themselves suffered death or wounds in the discharge of their humane and noble duties. The wounded from the front suffered severely from their conveyance in buck wagons which, not being under the rules of the Geneva Convention, exposed their occupants to great risk, whereas if the bearer organisation which was in existence at the beginning of the campaign but which was broken up owing to the lack of transport animals had still existed the suffering and danger to which the wounded were exposed during the transit from the field would have been non-existent. The transport of the Royal Army Medical Corps should, as in the case of the Australians, belong solely to that corps, and be in this case also under their sole control.

The hospitals at Rondebosch and Wynberg and the Portland Hospital are models of all that hospitals should be in point of position, equipment, and the skill of their surgical and nursing staffs. The ambulance trains for conveying the wounded to the coast as soon as they are able to travel are beautifully arranged. No. 2 train, which I inspected, was perfect in every detail; it was only 10 days being fitted out. The Red Cross Society supply to every wounded man travelling in these trains a linen bag containing a suit of pyjamas, a pair of socks, a flannel shirt, a sponge, some soap, and a toothbrush. Nor is this all. The present war has brought into being that most useful adjunct of warfare, the hospital, or Red Cross, ship, the permanent commission of which I advocated some short time back in a letter to the *Times*. No one who has had the privilege of inspecting one of these ships can have failed to be struck with their beauty and spotless cleanliness and their wonderful equipment. In addition to these I visited the private yacht *Rhouma*, the property of Mr. Bullough, who has also fitted up a yacht as a convalescent hospital for patients from the Portland Hospital. Indeed, cases are on record in which visitors have been heard to express some envy of the poor fellows who have qualified by means of the bullet, the shell, or the sword for the temporary occupation of a bed on one of these beautiful floating convalescent homes.

The vast majority of the nurses who are employed in ambulance work are an honour to their profession and to womanhood. Amongst the trained nurses the work is everything it should be; but there are trained nurses and untrained nuisances, and how the latter have managed to squeeze themselves into the vocation is surprising considering the precaution adopted so wisely by the Central British Red Cross Committee in London of employing only those having three years' training. I must not omit to mention the excellent work done by the trained male orderlies who constitute the rank and file of the Royal Army Medical Corps and their co-helpers from the St. John Ambulance Association who act under the orders of the lady nurses. They possess not only the physical strength for the lifting and carrying inseparable from the nursing of wounded men, but their touch is all but as gentle as a woman's and they possess scarcely less tenderness of heart. It is also quite possible that the wounded soldier, were he given the choice, would as soon be tended by one of his trained comrades as by the lady nurse. I have now had the pleasure of visiting a large number of the military hospitals and of seeing the excellent arrangements made for the care of the sick and wounded of our soldiers in the present campaign and I am quite certain of this, that in no former campaign have the sick and wounded been better or so well looked after. The courtesy and kindness of the officers of the Royal Army Medical Corps to their civilian *confrères* has been one of the most pleasing features of the operations. The kindness which I personally received at the Cape from Surgeon-General Wilson, R.A.M.C., the principal medical officer, and his secretary, Major W. G. A. Bedford, R.A.M.C., I shall never forget, and here, again, in Kimberley I have experienced the same treatment from Colonel E. Townsend, R.A.M.C., and his secretary, Major C. H. Burtchaell, R.A.M.C. The latter officer has had a remarkable experience in having had the misfortune to be taken prisoner by the Boers, and his account of this event is of the most interesting character. I have been given some surgical work whilst waiting here to join Lord Roberts at the front and in that work I have had the able assistance of Mr. N. Mummery of University College Hospital, who is acting as my dresser.

The following shows the distribution of the 722 patients in the buildings which have been transformed into hospitals at Kimberley and are under military control. At the Masonic Hall, under Major R. G. Hanley, R.A.M.C., and Lieutenant G. M. Fell, R.A.M.C., there are 60 cases, all of enteric fever. At the Public Schools, under Captain Lawson, R.A.M.C., and Lieutenant Newman, of the Victorian Medical Staff, there are 68 cases, 13 of which are of enteric fever. At the Drill Hall, under Captain A. F. Heaton, R.A.M.C., and Civil Surgeon Thomas, there are 60 cases, all of enteric fever. At the Christian Brothers' School, under Lieutenant H. D. Packer, R.A.M.C., there are 39 cases, all of enteric fever. At the Nazareth House, under Lieutenant H. D. Packer, R.A.M.C., there are 42 cases, none of enteric fever. At St. Mary's Hall, under Major C. Raymond, R.A.M.C., there are eight cases, of which four are of enteric fever. At the Presbyterian School, under Civil Surgeon Roberts, there are 41 cases, all of enteric fever. At Main-street Hospital, under Civil Surgeon Roberts, there are 26 cases. At the Rink Hospital, under Civil Surgeon Suffield, there are 117 wounded Boers. At the 9th Brigade Field Hospital (in camp), under Major H. J. Peard, R.A.M.C., there are 235 cases, none of enteric fever. At the Divisional Troop Field Hospital (in camp), under Major G. Coates, R.A.M.C., there are 36 cases, all of which are of enteric fever. In addition there are at the Kimberley Civil Hospital, under Dr. Russell, 160 military patients, of whom 85 are suffering from enteric fever.

The extraordinary number of cases of enteric fever is one of the saddest features of this campaign. The results of immunity by inoculation are imperfect, and no statistics on the subject are to hand as yet. At Modder river six per 1000 of those who were inoculated and nine per 1000 of the uninoculated suffered from the disease. Several men were inoculated previously to coming or on the way out, and the effect was in some cases so severe that many refused to have it done. One soldier here on being given a hypodermic injection of morphia asked if it was that anti-typhoid stuff, because if so he "wasn't going to have it." Of surgical cases the following are those of most interest. In the Rink Hospital amongst the Boer prisoners are four or five interesting cases of gunshot wounds of the knee, all of which are progressing favourably without operation. With the patella fractured and the joint involved these cases are getting well

with movement in the joint. Another case of gunshot wound of the left femur splintering the great trochanter is going on well; pieces of splintered bone are coming away and there is no trouble to the hip-joint. A serious case is one of compound comminuted fracture of the right end of the frontal bone. Many splinters of bone have come away and there is much suppuration from the drainage-tubes placed in the wounds. There is, however, no paralysis, no loss of consciousness, and no elevation of temperature. At the Kimberley civil hospital are the following very interesting cases, for the details of which I am indebted to Dr. Russell who kindly conducted me through the wards. I should mention that Dr. Russell and several nurses working with him are the same persons as those who did such excellent work at Maidstone during the epidemic of typhoid fever in that town.

CASE 1.—A boy, aged 11 years, was out on the veldt when the relief column was approaching Kimberley. There was some sniping between the local forces and the Boers who were retreating from Alexandersfontein (six miles from Kimberley) and the lad was struck by a Mauser bullet which passed diagonally across the vertex of his skull for six inches from right to left. Meningeal symptoms supervened and then followed paralysis of the right arm and leg and partial paralysis of the left arm. The meningeal symptoms gradually abated, the paralysis of the left arm rapidly improved, and then gradually that of the right arm, and now only the right leg is affected.

CASE 2.—A Mauser bullet passed through the nape of the neck of a corporal, one and a half inches from the middle line on the right side. It cut through the soft palate and the right tonsil, grazing the superior maxillary, dislodging the first right molar tooth, and carrying away an artificial plate of upper teeth, and finally passed out at the mouth.

CASE 3.—A guardsman was sitting upright on horseback, riding away from the firing line, when he was struck by a Mauser bullet at about the level of the fifth cervical vertebra and one and three quarter inches to the left of the medial line. The bullet passed through the upper part of the left tonsil, then traversed under the surface, and emerged close to the tip of the tongue, dislodging two teeth—the left upper and the left lower incisors.

CASE 4.—An artilleryman was laying his gun when a shrapnel shell burst over his head and one of the bullets entered between the second and third rib one and a quarter inches from the sternal margin on the left side, forming an entrance wound of about the size of a threepenny piece. This healed well. The exit wound was between the seventh and eighth ribs behind, two inches from the spinal column, on the left side, forming a much larger everted wound. This has not healed owing to the damage to the ribs. On admission there was marked pericardial friction; hæmothorax and pleurisy developed, and there are now occasional syncopal attacks. Otherwise the patient seems to be progressing favourably.

Kimberley, South Africa, March 17th.

INAUGURATION OF THE PARIS UNIVERSAL EXHIBITION.

(FROM OUR SPECIAL CORRESPONDENT.)

THE greatest and the most magnificent Universal Exhibition ever held in Europe was solemnly inaugurated on April 14th. The two short but eloquent speeches delivered on that occasion very clearly emphasise the main characteristics of this gigantic enterprise. As personally responsible for the Exhibition it was M. MILLERAND, Minister of Commerce, who spoke first. He rendered homage to the general manager, M. Alfred Picard, to the engineers, architects, builders, and exhibitors who had helped, but he did not omit "the innumerable legion of anonymous workmen whose hands had raised these palaces." Though the speech was remarkably brief M. Millerand nevertheless found time for one passage that might almost be considered as especially addressed to the medical profession. Speaking of the triumph of man in controlling and utilising the forces of nature he said:—

"While the power of life infinitely increases in its intensity, death itself recoils before the victorious march of the human mind. The genius of that pure benefactor of humanity, Pasteur, whose glory is not saddened by the slightest shadow, has increased a hundred-fold the possibilities of surgery and medicine. Disease, seized at its origin and isolated, yields; and now there appears on a near horizon the happy epoch when the epidemics which ravaged our cities and decimated the populations will be but terrible memories and legends of the past. Thus science multiplies with admirable prodigality the means placed at the disposal of man to control the exterior forces or to protect himself against their hostile effects. But it renders a still greater service by delivering up the secret of the material and moral greatness of society which is expressed in the one word, solidarity. We are the inheritors of the faults as of the merits of our fathers and we are already writing the history of our children. The solidarity which unites us to our ancestors also unites us to our contemporaries. It is not merely a question of physical contagion. The dwellings of the poor do not shelter only the pathogenic germs of disease but also uncultivated brains where superstition and hatred ferment and constitute perils which by an intelligent forethought we may conquer and dispel. To triumph over ignorance, to conquer misery, such is the highest and most pressing social duty."

M. LOUBET, President of the Republic, replied, approving these sentiments, and pointed out that by the Exhibition France strove to bring about concord between all peoples. "France is conscious of labouring for the welfare of the world, and if at the close of this noble century its victory over error and hatred is, alas, incomplete, it bequeaths to us an ever-living faith in progress. Thus, all institutions dealing with social economy here occupy a very large space. By making known the efforts of each individual State to perfect the art of living in social concord these exhibits give a special character to the present Exhibition, which will have an immense and illuminating effect and constitute a school of mutual enlightenment."

Higher far than material achievements that can be numbered and tabulated in a catalogue is the invisible moral effort by which so many intelligences are grouped together for the one purpose by a common "sentiment of solidarity." M. Loubet added: "I have the pleasure of proclaiming that all the Governments render homage to this superior law. It will not be the least of the results of this great concourse of willing helpers if, as is the case, we are able to state that in spite of the ardent industrial, commercial, and economical struggle fought out between the peoples of the world, they nevertheless place in the first rank the study of the means of relieving the sufferings of humanity, of assisting the poor, of spreading education, of moralising labour, and of providing resources for the aged."

Goodness and justice to be brought about by the spirit of solidarity was the moral which both speakers strove to attach to the Exhibition. And this moral, which applies to all human endeavour, which is thus so eloquently proclaimed at the opening of the greatest of European exhibitions, is precisely what is now moving the medical profession in most countries to come together as one body, so as to find, in the principle of solidarity, the solution of those problems, those grievances and abuses, that are tending to demoralise and degrade a noble calling. To the despondent, to those who believe that the formation of medical unions is not practical, that the profession is too much divided against itself, a visit to the Paris Exhibition would help to dispel such doubts. Whatever may be the divisions and rivalries among medical men they cannot compare with the wars and rumours of wars, the armaments, antagonism, race prejudices, clashing commercial interests, and the many other causes that still divide and disturb the nations of the world. Yet, in spite of all this, it is not now possible to doubt that the Exhibition will be a great moral and material success. It will soften asperities, unite interests, spread knowledge, engender mutual respect, and tend towards the realisation of those ideals to which the President of the Republic and the Minister of Commerce eloquently alluded.

But in speaking of the Exhibition, and in spite of the official inauguration, I am still compelled to speak in the future tense. There is no disguising the fact that the Exhibition is not ready. All the larger buildings, all that takes the most time and is most difficult to construct, is now quite terminated; but if the framework is there the details are still absent, or at best are only represented by unpacked cases. It may at once be said, and this most emphatically, that those who can only afford to visit Paris once during the

season must postpone this visit for some weeks. For those who are on the spot or who are certain of being able to return later there is more than enough to see even in the present stage of unpreparedness. But this consists in the main of the outside view of the vast and varied architectural specimens and palaces. The exhibits within the pavilion of the city of Paris are, it is true, nearly all in their proper places and they are of great technical interest; but this is an almost solitary exception, at least so far as the great nations are concerned. Some of the smaller countries, on the other hand, are quite in advance. The exhibits from Bosnia and Herzegovina, which occupy a special building, are all in order, well displayed, and very beautiful. The immense Siberian building is nearly ready both inside and outside and is well worth seeing. Servia is also to the fore and the Transvaal exhibits are almost all in their proper place. The British section is altogether behindhand. This remark applies equally to the other Great Powers, and yet it would take some days to see and admire in detail merely the outside of the innumerable buildings and palaces that crowd on the vast plain of Mars, on the slopes of the Trocadéro, on both banks of the Seine, in the great square of the Invalides, and in the gardens of the Champs Elysées. Strange reproductions of the dwellings and decorations of far-off countries constitute object lessons in geography, and then what marvels of art greet the eye on all sides. Gothic arches, minarets of true oriental style, parapets and battlements, domes and towers, strange, fantastic wooden structures of Scandinavia, Indian mystic ornamentations and placid Buddhas, beautiful Corinthian and Greek pillars supporting vast palaces built with cream-white stone; such a confusion of colour here, whiteness there, and every freak and phantasy manifesting themselves to the bewildered gaze. The Exhibition is not ready—it is far from ready—and yet there is so much to be seen. The roads and paths are not even made, excepting a few of the main thoroughfares. It is impossible to walk about without stumbling over mounds of rubbish, striking against planks or empty cases, hurting the feet by treading on sharp stones or slipping into some puddle or mire, and yet all these risks and inconvenience are cheerfully endured just so as to be able to see how beautiful it all will be—by-and-by.

THE INTERNATIONAL CONGRESSES.

During the course of the exhibition there are to be, in all, 127 official international congresses and a considerable number of unofficial congresses. The latter are not patronised by the Government, but are organised by private initiative and at the cost of the promoters. The official congresses, on the contrary, receive some assistance from the Government. Some of the circulars are printed at the cost of the State and delivered gratuitously by the post. Also public buildings are available rent free for the holding of these official congresses, and the members will in many instances be invited to State receptions. Among these 127 international congresses a considerable number are of interest to the medical profession and to sanitary and social reformers; the following list is given in chronological order:—

The International Congress "de la Mutualité" comprises all benefit or provident societies, and the greater part of these friendly societies have a medical aid service for their members. This congress will be held from June 7th to 10th. M. Lourties, 12, rue Notre-Dame-des-Champs, is the president, and M. Arboux, 78, rue Bonaparte, the general secretary.

The Congress—it is not necessary to repeat that these are all international congresses—on the Patronage of Young Workers and Apprentices, a question involving serious social, economic, moral and health problems, especially in so far as the work of young girls is concerned, will be held from June 11th to 13th. M. Mézières, 57, Boulevard St. Michel, is the president; and M. Griffaton, 5, rue Coëtlogon, is the secretary.

The Congress on Agricultural Colonies or Stations. The practice of sending town-bred, poor, or abandoned children back to the land so that they may become agriculturists and colonists is a very important practical method of dealing with the poverty and ill-health prevailing in great centres. This congress will meet from June 18th to 20th. M. Casimir Perier, 23, rue Nitot, former President of the French Republic, will preside, and M. Grandeau, 5, Avenue de l'Opéra, is the secretary.

The Congress on Habitations à Bon Marché, practically on artisans' dwellings and the housing of the poor, will take place from June 18th to 21st. M. Jules Siegfried, formerly Cabinet Minister, residing at 226, Boulevard St. Germain, will preside and M. Challamel, 7, rue Rouget-de-Lisle, is the secretary.

The Congress of Feminine Institutions and Organisations (*Œuvres et Institutions Féminines*) will doubtless deal with many social and sanitary problems and will meet from June 18th to 23rd. Mademoiselle Sarah Monod, 95, rue de Reuilly, will preside and Madame Pégard, 24, rue Drouot, is the secretary.

The Congress on Accidents to Workers, involving the liability of employers, insurance against accidents, surgical aid, &c., is fixed for June 25th to 30th. The president is M. Linder, 38, rue du Luxembourg, and the secretary is M. Grüner, 20, rue Louis le Grand. Connected with the question of accidents there is a special Congress on the Surveillance of Machinery, especially steam-engines, which will take place from July 16th to 18th. M. Linder is also the president of this congress and M. Compère, 66, rue de Rome, is the secretary.

Then there is the Life Saving Congress (*Sauvetage*) from July 17th to 23rd, dealing not only with the question of life-boats, but with every other means of help in moments of danger. M. Boucher-Cadart, 19, rue de Presbourg, will preside and M. Cocheris, 13, rue de Savoie, is the secretary.

The Congress of Medical Ethics or Deontology has been described at great length in these columns. It will be the first international congress of the sort ever held and will deal exclusively with the economical and ethical questions affecting the medical profession. It will meet from July 23rd to 28th. Dr. Lereboullet, 44, rue de Lille, is the president and Dr. Jules Glover, 37, rue du Faubourg Poissonnière, is the secretary.

The Congress of Applied Chemistry will also meet from July 23rd to 28th, M. Moissan, 7, rue Vauquelin, will preside and M. Dupont, 52, rue de Dunkerque, is the secretary.

The Congress on the Legal Protection of Workers or Labour Legislation involves the Factory Acts, laws limiting the hours of labour, unwholesome or dangerous industries, &c., and is important from the sanitary and social reform point of view. It meets from July 25th to 29th. M. Canwès, 16, Avenue de Sceaux, Versailles, is president and M. Jay, 16, Rond-point de la Porte Maillot. Neuilly, is the secretary.

The Congress of the Medical Press will assemble from July 27th to 29th for the purpose of bringing together the proprietors, editors, and contributors of the medical journals of all countries so that they may become mutually acquainted with each other and concert as to the best means of defending their copyright interests and other practical questions. Dr. Cornil, 19, rue Saint-Guillaume, is the president and Dr. Blondel, 8, rue de Castellane, is the secretary.

The Congress of Medical Electrology and Radiology is convoked for July 27th to August 1st. Dr. Weiss, 20, Avenue Jules Janin, is the president and M. Doumer, 57, rue Nicolas-Leblanc, Lille, is the secretary.

The Congress "d'Assistance Publique et de Bienfaisance Privée" comprises all questions of poor relief whether by the State, by local authorities, or by private charity. It will hold its sittings from July 30th to August 5th. M. Casimir-Perier, 23, rue Nitot, will preside over this congress and Dr. Thulié, 168, rue de Grenelle, is the secretary.

The Pharmaceutical Congress will assemble from August 2nd to 8th. M. Planchon, 4, Avenue de l'Observatoire, is the president and M. Crinon, 45, rue de Turenne, is the secretary.

Then the great International Congress of Medicine, which is the most important of all the congresses so far as the profession is concerned, will be held from August 2nd to 9th. Many thousand members are expected to attend. Dr. Lannelongue, 3, rue François-1er, will preside and Dr. Chauffard, 21, rue de l'École de Médecine, is the secretary.

Simultaneously, but commencing one day sooner—namely, from August 1st to the 9th—the Congress of Dermatology and Syphilography will be held under the presidency of Dr. Besnier, 59, Boulevard Malesherbes, and Dr. Thibierge, 7, rue de Surène, is the secretary.

The Congress to Ameliorate the Condition of the Blind will meet on August 5th. M. Dussouchet, 12, rue de Tournon, will preside and M. de la Sizeranne, 31, Avenue de Breteuil, is the secretary.

The Deaf and Dumb Congress will be held from August 6th to 8th. Dr. Ladreit de la Charrière, 3, quai Malaquais, presides and Dr. Martha, 3A, rue Fortuny, is the secretary.

The Chemical Congress will meet from August 6th to 11th. M. Berthelot, 3, rue Mazarine, is the president and M. Bertrand, 188, Boulevard Voltaire, is the secretary.

The Congress on Physical Sciences will also meet from August 6th to 11th. M. A. Cornu, 9, rue de Grenelle, is the president and M. L. Poincaré, 105 bis, Boulevard Raspail, is the secretary.

The Dental Congress will be held from August 8th to 14th, M. Godon, 72, Boulevard Haussmann, is the president and Dr. Sauvez, 17, rue de Saint-Pétersbourg, is the secretary.

The second in importance of all these congresses is undoubtedly the International Congress of Hygiene, and more than 1000 medical men and sanitary reformers, representing some 20 to 30 different nationalities, are likely to attend. Dr. Brouardel of the Ecole de Médecine, Paris, will preside, and Dr. A. J. Martin, 21, rue de l'Ecole de Médecine, is the general secretary, and this congress is convoked for August 10th to 17th.

The Congress on Hypnotism will meet from August 12th to 15th. Dr. J. Voisin, 23, rue Saint Lazare, will preside and Dr. Bérillon, 14, rue Taitbout, is the secretary.

The Congress "des Œuvres d'Assistance en Temps de Guerre" or the Red Cross Congress will be held from August 20th to 25th. M. A. Mézières, 57, Boulevard Saint-Michel, is the president and M. de Gosselin, 120, Faubourg St. Honoré, is the secretary.

Some medical men may be interested in the Congress against the Abuse of Tobacco which will assemble from August 20th to 25th. M. Decroix, 52, rue Bonaparte, is the president and Dr. G. Petit, 51, rue du Rocher, is the secretary.

The Psychological Congress will meet from August 22nd to 25th. M. Ribot, 25, rue des Ecoles, is the president and Dr. Janet, 21, rue Barbet-de-Jouy, is the secretary.

The Congress on Physical Education will assemble from August 30th to Sept. 6th. M. Léon Bourgeois, 5, rue Palatine, is the president and M. Demény, 95, Avenue de Versailles, is the secretary.

Then there is to be a Congress on Pharmaceutical Specialities from Sept. 3rd to 4th. M. Victor Fumouze, 78, rue du Faubourg Saint-Denis, is the president and Dr. Leprince, 24, rue Singer, is the secretary.

Finally, there will be a Meteorological Congress from Sept. 10th to 16th. M. Mascart, 176, rue de l'Université, is the president and M. Angot, 12, Avenue de l'Alma, is the secretary.

This makes altogether 30 international congresses out of the 127 official congresses that may interest medical visitors. As the dates at which these congresses will take place and the names and addresses of the presidents and the general secretaries have now been given, it only remains for those who desire to become members of any particular congress or congresses to write to the secretaries and full details, circulars, &c., will be sent in response to any such application. The work of organisation will be greatly facilitated if such demands for information are made as soon as possible. It is not fair to the secretaries to postpone such matters to the last moment, and those who are thus negligent cannot complain if they fail to obtain prompt replies. It is at once more courteous and more prudent to take time by the forelock and to make all necessary arrangements well in advance of the dates fixed for the congresses which the applicant desires to attend.

Paris, April 16th.

THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

ELECTION OF PRESIDENT.

AN extraordinary meeting of the Comitia was held on April 9th, Dr. W. S. CHURCH, President, being in the chair.

Dr. W. H. ALLCHIN acted as vicarius for the Registrar (Dr. Liveing) who was unavoidably prevented from being present.

The PRESIDENT announced that at a recent meeting of the Censors' Board the following telegram was sent to H.R.H. the Prince of Wales: "The President on behalf of the Royal College of Physicians desires to convey to their Royal Highnesses the Prince and Princess of Wales the deep feeling with which the College heard of the attempt on the Prince's life and the thankfulness of the College that no ill effects have followed."

A report was received from the Council on the following reference from the College of Jan. 25th:—

That it be referred to the Council to consider and report to the College in what way the two representatives of the College on the Senate of the reconstituted University of London should be elected.

The SENIOR CENSOR (Dr. Pye-Smith) proposed, and the TREASURER (Sir Dyce Duckworth) seconded, that the report should be received and adopted.

Dr. SANSOM expressed his approval of the report, which was adopted.

The ACTING REGISTRAR then proposed that the following by-laws should be enacted for the first time and then submitted for the approval of the Council:—

BY-LAW LXV. B.

The two persons appointed by the Royal College of Physicians of London to be Members of the Senate of the University of London, pursuant to the statutes made by the Commissioners appointed under the University of London Act of 1898, shall always be Fellows of the College.

BY-LAW XXIX. B.

The Members of the Senate of the University of London appointed by the College shall be elected at a general meeting of the College in the manner following:—

For each vacancy the Council shall nominate a Fellow of the College whom they recommend for the office, and the nomination shall appear on the summons to the College meeting at which the election is to take place.

At the time of the election the names of any other Fellows may be proposed by any present and if duly seconded these shall be added to the name or names recommended by the Council, and from the list so formed each Fellow present when voting shall write on a slip of paper and place in the urn the name of one Fellow for each vacancy to be filled. If more names are written than there are vacancies the vote shall be null and void. The Fellow or Fellows who shall be found on a scrutiny to have the highest number of votes shall be declared elected.

In the event of any such Fellow declining to serve the one who has received the next highest number shall be substituted for him. In the case of an equality of votes among two or more Fellows a second ballot shall be taken to decide between them, and this likewise failing the President shall have a casting vote.

A letter was received from the Home Office enclosing a letter from the President of a Congress on the Prevention of Tuberculosis to be held in Naples from April 25th to the 28th and inviting observations from the College.

The PRESIDENT said that he thought that England should be represented at the Congress and that if the Home Office should ask him to nominate a representative he asked the permission of the College to name Dr. T. E. Charles of Rome.

A resolution to the above effect was proposed by the SENIOR CENSOR, seconded by Sir WILLIAM BROADBENT, and carried.

The PRESIDENT then delivered his address. He referred to the distinctions which had been conferred on Fellows during the year and to the awards which had been given by the College to distinguished members of the profession. He also alluded to various gifts made to the College, notably £1000 by Dr. C. Theodore Williams, £500 by the executors of the late Dr. C. J. Hare, and £100 by Dr. Frank. He also gave a summary of the business transacted by the College during the year, and the various appointments that had been made. He read obituary notices on 13 Fellows whose deaths had taken place during the past 12 months. The names were as follows: Dr. Heinrich Port, Dr. William Squire, Sir William Roberts; Dr. Thomas Blackall, Sir Alexander Armstrong, Dr. W. B. C. Eatwell, the Rt. Rev. Dr. John W. Hicks, Dr. J. T. Arlidge, Dr. Reginald Southey, Sir Richard Thorne Thorne, Dr. F. Charlewood Turner, Dr. Thomas Guy, and Dr. William Marcet.

Dr. PAVY proposed and the SENIOR CENSOR seconded a vote of thanks to the President for his address together with a request that it should be published. This was carried. The PRESIDENT having thanked the College vacated the chair. The ACTING-REGISTRAR then read the by-laws referring to the election of President, and a ballot was then taken with the following result: Dr. W. S. Church, 92 votes; Sir William Broadbent, four votes; Sir Richard Douglas Powell, one vote; Dr. Pavy, one vote; Dr. W. H. Dickinson, one vote. The charge was delivered by the SENIOR CENSOR and the PRESIDENT pledged his faith to the College.

The PRESIDENT having thanked the College for again electing him, a report was read from the Committee of Management and was adopted on the proposal of Dr. NORMAN MOORE, seconded by the SENIOR CENSOR. The report recommended that the course of Laboratory Instruction in Public Health at the University of South Wales,

Cardiff, should be recognised as fulfilling the requirements of the regulations for Part I. of the examination for the Diploma in Public Health. Also, that the course of lectures in Pharmacology and Therapeutics at the University College of South Wales, Cardiff, should be recognised as fulfilling the requirements of Clause V., Paragraph II., Section I. of the regulations of the Examining Board in England.

A communication was received from the Metropolitan Asylums Board asking the guidance of the College in a question which has arisen with regard to certain cases of scarlet fever and diphtheria alleged to prove sources of infection on returning home. After a discussion in which the PRESIDENT, Sir DYCE DUCKWORTH, Dr. G. A. HERON, and Dr. W. J. R. SIMPSON took part, Dr. J. H. BRIDGES proposed and Dr. NORMAN MOORE seconded a motion to the effect that a committee should be appointed to inquire into the subject, with the power, if necessary, to cause clinical and laboratory work to be undertaken. This was carried. The PRESIDENT nominated the following gentlemen as members of the committee: Dr. Bridges, Dr. Simpson, Dr. Sidney Phillips, and the Senior Censor.

A communication was received from the President of the Thirteenth International Congress on Medicine, to be held in Paris from August 2nd to 9th, inviting the College to send a representative. Acting on a suggestion from the PRESIDENT, the SENIOR CENSOR proposed and Dr. FRANK seconded a motion that Dr. Pavy should be asked to represent the College. This was carried. After some other formal business the President dissolved the committee.

INDUSTRIAL LEAD POISONING: ACTION OF THE HOME OFFICE.

THE following Memorandum has been published above the signature of Dr. Arthur Whitelegge, the Chief Inspector of Factories, by the Factory Department of the Home Office, supplementing the memorandum of December, 1898, which dealt with the circumstances in which (1) cases of lead poisoning occurring in house painters and plumbers and (2) recurring attacks of lead poisoning in the same person should be notified:—

1. The object of the notification of lead poisoning is, of course, to obtain a clue to dangerous conditions over which the inspectors can exercise control, and hence the requirement under S. 29, 1895, is limited to cases which appear to have been contracted in a factory or workshop. Beyond these limits the Home Office has no power to interfere, and plumbism otherwise acquired—e.g., from lead in drinking-water or even from industrial occupation outside the Factory Acts—could not be dealt with by the Factory Department. Moreover, any reports of the kind, being non-statutory, would be incomplete and could have but little statistical value.

The opinion to be notified is not merely that the patient is suffering from lead poisoning, nor even that he is suffering from industrial lead poisoning, but that he is the subject of lead poisoning which the practitioner believes to have been contracted in a factory or workshop.

There are, however, doubtful cases, and perhaps the most typical instance is that of house painters, who, as such, are altogether outside the province of the Factory Acts, so that no duty of notification arises and nothing can be done by the factory inspectors to amend the conditions which cause the risk of lead poisoning, and further, there is no power to pay a fee for a notification which is not in accordance with the terms of the section.

If, however, a house painter spends some portion of his time in a factory or workshop occupied by his employer, in processes such as grinding lead pigments or mixing lead paints, the question may legitimately arise whether his case does not become reportable, seeing that risk though in minor degree is incurred there as well as in his usual outdoor work. In several instances attacks of plumbism in painters or plumbers have been notified in which after laborious inquiry by the inspectors and sometimes by the certifying surgeons also, no ground could be discovered for assuming causation at a factory or workshop and consequently no remedial action could be taken.

In order to avoid unnecessary trouble on the part of all concerned, the practice now adopted at the Home Office is to accept the certificate on the assumption (1) that the practitioner is in a position to say that the patient is employed in connexion with a given factory or workshop in which from the nature of the work carried on risk of lead poisoning may reasonably be anticipated, and (2) that no case will be notified in which this is not so. The particular workshop or factory should be stated in the notification certificate.

The reported cases of plumbism among plumbers and house painters are referred to the district inspector and by him to the certifying surgeon where necessary. These cases are classed apart from the rest in the published returns.

2. Doubt has been felt by some practitioners as to the circumstances in which recurring attacks of lead poisoning in the same person require re-notification. There can be no question that if the affected person continues to work in lead, successive attacks, especially when distinct from those preceding, should each be notified. Only in this way can knowledge of the progress of the case be gained, and in industries under special rules where a periodical examination of the persons employed is required repeated attacks in the same person may point to need for more stringent use of the power of suspension from work on the part of the certifying surgeon or appointed surgeon.

The case of persons affected with chronic lead poisoning who have ceased to work at any lead process stands on a somewhat different footing seeing that the later phases are not attributable to any new exposure to harmful factory or workshop conditions. Such cases have presumably been reported on previous occasions, and it is hardly necessary for a medical practitioner to re-notify the continuance or even recurrence of plumbism of long standing after employment in dangerous processes has come to an end.

THE ETHICS OF DIRECT REPRESENTATION.

UNDER the above heading Dr. Glover forwards to us the following correspondence with a request for publication.

The Infirmary, 282, High-street, Lewisham, S.E.,
April 9th, 1900.

DEAR DR. GLOVER,—I enclose a copy of notice and agenda for a meeting. In doing so I must mention that whilst your presence to support our efforts to avert the imminent repeal of the Medical Acts would afford us the greatest gratification this occasion is not one for discussing whether the registration of midwives is desirable but for organising resistance to it.

Whatever your personal views we claim that you know the mind of your constituency and occupy your seat on the G. M. C. for the purpose of representing not your own views but those of your constituents.

I am, dear Sir, yours faithfully,
F. S. TOOGOOD.

Dr. J. Grey Glover, Highbury-place, N.

25, Highbury-place, N., April 18th, 1900.

DEAR DR. TOOGOOD,—I telegraphed, as you will know, to Mr. Brown that I could not attend the meeting summoned by the Emergency Committee at the Charing Cross Hotel.

Referring to your personal letter, accompanying the printed circular of the "Emergency Committee of Public Safety against Midwives Registration," let me say that I do not agree with you as to the "imminent repeal of the Medical Acts" being involved in the passing of the Midwives Bill. But I do not propose to argue this point here. You clearly intimate to me that my duty is not to argue but to obey. I may take another opportunity of arguing with more reasonable opponents. My immediate object in writing you is to enter an emphatic protest against the doctrine expressed in the closing paragraph of your letter to me which runs as follows:—

> Whatever your personal views we claim that you know the mind of your constituency and occupy your seat on the General Medical Council for the purpose of representing not your own views but those of your constituents.

I demur entirely to the truth of this paragraph either as regards the mind of my constituency or my duty. I was sent to the Council by those who well knew my views to vote not mechanically but after grave deliberation with 29 other gentlemen representing, though too indirectly, the profession and the medical authorities—as well as the State. I

maintain that no real and intelligent friend of Direct Representation inspired this paragraph of your letter. The doctrine involved in it would reduce Direct Representatives to mere voting machines, to receive the last mandate of any clique of the profession that thought itself a saviour of society and gave its orders to its slaves.

I have a higher conception of Direct Representation. I did not receive my office on such terms or by the help of the group of men—well known and defined—who are at your back with such degrading and disastrous views of the principle of Direct Representation which is struggling for extension, not to say for existence. On the contrary, I received it after the honest expression of my views as in the following extract from my address before the election of 1896:—

The question of midwives is being clarified by discussion. All are agreed that the lives of poor women must be guarded from the coarse risks of the perilous ignorance of so-called midwives. While I feel this very strongly I am fully alive to the importance of maintaining the principle of the Act of 1866 that midwifery is one of the three branches of the art of medicine, and that those who are not qualified in the other two can only act subordinately to members of the medical profession; and my endeavour shall be in regard to any legislation with respect to midwives to secure the clear recognition of this principle.

Such are the principles which I have always held, which I held when asking the votes of the profession, on which I was elected, and which I have done my best to have asserted or involved in the Midwives Bill. I should despise myself if, to gain a little temporary praise, I accepted the dictation of gentlemen who, no doubt, honestly differ from me on the midwives question, but who entirely fail to understand the morality and the strength of Direct Representation. I resent such dictation, as a great man did in a larger electoral sphere. He said:—

Authoritative dictation, *mandates* issued which the member is bound blindly and implicitly to obey, to vote and to argue for, though contrary to the deepest convictions of his judgment and conscience, these are things utterly unknown to the laws of this land and which arise from a fundamental mistake of the whole order and tenour of our constitution.

I abstain here from all discussion of the merits of the Midwives Bill. But in the interest of Direct Representation more than in my own I am compelled, though very reluctantly, to write this letter.

Believe me, yours very truly,

Dr. F. S. Toogood, Lewisham. J. G. GLOVER.

PS.—I am sending copies of this correspondence to THE LANCET and the *British Medical Journal*.

A JOINT COMMITTEE TO OPPOSE MIDWIVES' REGISTRATION.

THIS committee, which was constituted by resolution of the meeting to protest against the Midwives Bill held on April 4th at the Cannon-street Hotel, and reported in our issue of April 7th, held a meeting at the Charing-cross Hotel on April 12th, when Mr. GEORGE BROWN took the chair.

A "whip" was read, signed by certain Members of Parliament, to convene a conference at the House of Commons to receive a deputation of the Joint Committee; and a draft address was approved, subject to modification by the executive of the committee, for signature by constituents in boroughs or divisions. This address invited the personal opposition of Members of Parliament to the Midwives Bill, 1900, now before Parliament (1) by signing the "whip"; (2) by joining the committee; (3) by promoting deputations to lay before the Lord President of the Privy Council and the leader of the House of Commons; and (4) by opposing in Parliament the adoption of the report upon, and the third reading of, the Bill unless amended into the form of useful and proper provision for the training and registration of midwifery nurses not authorised to act in any case as practitioners of the art and science of midwifery without medical education and registration.

On the motion of Dr. HUGH WOODS, seconded by Dr. LORIMER HART, the following resolution was unanimously adopted:—

That the executive be intrusted to take steps with a view to the requisition of a special general meeting of the British Medical Association by members of that association for the object of offering immediate opposition to the Midwives Registration Bill.

The question of funds was referred to the executive with instructions to invite THE LANCET and the *British Medical Journal* to open lists.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 6802 births and 5120 deaths were registered during the week ending April 7th. The annual rate of mortality in these towns, which had been 21·6 and 21·4 per 1000 in the two preceding weeks, further rose during the week to 23·0. In London the rate was 22·0 per 1000, while it averaged 23·7 in the 32 provincial towns. The lowest death-rates in these towns were 15 0 in Derby, 16·5 in Birkenhead, 17·2 in Gateshead, and 17 3 in Sunderland; the highest rates were 31·0 in Manchester, 31·6 in Liverpool, 32·9 in Preston, and 33·2 in Wolverhampton. The 5120 deaths in these towns included 500 which were referred to the principal zymotic diseases, against 422, 471, and 497 in the three preceding weeks; of these 177 resulted from measles, 146 from whooping-cough, 78 from diphtheria, 39 from "fever" (principally enteric), 30 from scarlet fever, 28 from diarrhœa, and two from small-pox. No fatal case of any of these diseases occurred in Gateshead; in the other towns they caused the lowest death-rates in Croydon, Swansea, Derby, and Newcastle; and the highest rates in Cardiff, Wolverhampton, Salford, Blackburn, and Preston. The greatest mortality from measles occurred in Plymouth, Cardiff, Wolverhampton, Oldham, Huddersfield, and Halifax; from scarlet fever in Nottingham; and from whooping-cough in Wolverhampton, Norwich, Manchester, and Salford. The mortality from "fever" showed no marked excess in any of the 33 large towns. The 78 deaths from diphtheria included 32 in London, 13 in Sheffield, five in Portsmouth, five in Leeds, and four in Blackburn. Two fatal cases of small-pox were registered in Liverpool during the week under notice, but not one in any other of the 33 towns. There were two small-pox patients under treatment in the Metropolitan Asylums Hospitals on Saturday, April 7th, against numbers declining from 11 to three at the end of the six preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 1713, against numbers decreasing from 3578 to 1696 on the 20 preceding Saturdays; 185 new cases were admitted during the week, against 181, 170, and 172 in the three preceding weeks. Influenza was certified as the primary cause of 44 deaths in London. The deaths referred to diseases of the respiratory organs in London, which had increased from 378 to 469 in the four preceding weeks, further rose to 499, and were 111 above the corrected average. The causes of 75, or 1·5 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Cardiff, Bolton, Leeds, and in 10 other smaller towns; the largest proportions of uncertified deaths were registered in Portsmouth, Liverpool, Preston, Halifax, and Sheffield.

In 33 of the largest English towns 5996 births and 4998 deaths were registered during the week ending April 14th. The annual rate of mortality in these towns, which had been 21·4 and 23·0 per 1000 in the two preceding weeks, declined again last week to 22·4. In London the rate was 21·0 per 1000, while it averaged 23·4 in the 32 provincial towns. The lowest death-rates in these towns were 15·6 in Burnley, 15·8 in West Ham, 16·6 in Sunderland, and 18·2 in Portsmouth; the highest rates were 28 5 in Liverpool, 29 0 in Salford, 30·3 in Wolverhampton, and 30·5 in Manchester. The 4998 deaths in these towns included 477 which were referred to the principal zymotic diseases, against numbers increasing from 442 to 500 in the four preceding weeks; of these 182 resulted from measles, 144 from whooping-cough, 51 from diphtheria, 38 from "fever" (principally enteric), 33 from diarrhœa, 27 from scarlet fever, and two from small-pox. The lowest death-rates from these diseases occurred last week in Brighton, Birkenhead, Burnley, and Newcastle; and the highest rates in Cardiff, Wolverhampton, Oldham, and Blackburn. The greatest mortality from measles occurred in Plymouth, Bristol, Cardiff, and Oldham; from scarlet fever in Oldham; from whooping-cough in Wolverhampton, Norwich, Liverpool, and Salford; and from "fever" in Wolverhampton. The 51 deaths from diphtheria included 19 in London, seven in Sheffield, four in Leeds, three in Birmingham, and three in Preston. Two fatal cases of small-pox were registered last week in Liverpool, but not one in any other of the 33 large towns. There were

three cases of small-pox under treatment in the Metropolitan Asylums Hospitals on Saturday last, April 14th, against numbers decreasing from 11 to two at the end of the seven preceding weeks; one new case was admitted during the week, against none in any of the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 1694, against 1696 and 1713 on the two preceding Saturdays; 189 new cases were admitted during the week, against 170, 172, and 185 in the three preceding weeks. Influenza was certified as the primary cause of 42 deaths in London. The deaths referred to diseases of the respiratory organs in London, which had increased from 378 to 499 in the five preceding weeks, further rose last week to 501, and were 125 above the corrected average. The causes of 64, or 1·3 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Cardiff, Nottingham, Oldham, Bolton, Hull, and seven other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, Blackburn, Preston, Huddersfield, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 22·2 and 22·8 per 1000 in the two preceding weeks, declined again to 21·7 during the week ending April 7th, and was 1·3 per 1000 less than the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 16·4 in Dundee and 16 6 in Leith to 24 3 in Glasgow and 25·8 in Greenock. The 672 deaths in these towns included 19 which were referred to diarrhœa, 15 to whooping-cough, 14 to measles, six to diphtheria, five to "fever," and four to scarlet fever. In all 63 deaths resulted from these principal zymotic diseases, against 63, 68, and 75 in the three preceding weeks. These 63 deaths were equal to an annual rate of 2·0 per 1000, which was 0·2 per 1000 below the mean rate of the week from the same diseases in the 33 large English towns. The deaths from diarrhœa, which had declined from 25 to 14 in the four preceding weeks, rose again to 19, of which eight occurred in Glasgow, three in Edinburgh, three in Leith, and two in Aberdeen. The fatal cases of whooping-cough, which had increased from 15 to 24, in the three preceding weeks, declined again to 15, and included 10 in Glasgow and three in Aberdeen. The deaths from measles, which had been 19 and 14 in the two preceding weeks, were again 14 in the week under notice, nine being registered in Glasgow and three in Dundee. The fatal cases of diphtheria, which had been six and 14 in the two preceding weeks, declined again to six, of which three occurred in Glasgow. The deaths referred to different forms of "fever," which had been four and five in the two preceding weeks, were again five, and included three in Glasgow. The four fatal cases of scarlet fever corresponded with the number in each of the two preceding weeks, and were all registered in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 170 and 172 in the two preceding weeks, declined again to 156, but were slightly above the number in the corresponding period of last year. The causes of 30, or more than 4 per cent., of the deaths in these eight towns during the week were not certified.

The annual rate of mortality in the eight Scotch towns, which had been 22 8 and 21·7 per 1000 in the two preceding weeks, declined again to 21·3 during the week ending April 14th, and was 1·1 per 1000 less than the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 16·6 in Leith and 18 3 in Aberdeen to 23·3 in Paisley and 40 5 in Perth. The 659 deaths in these towns included 19 which were referred to measles, 19 to diarrhœa, 17 to whooping-cough, four to scarlet fever, four to "fever," and three to diphtheria. In all 66 deaths resulted from these principal zymotic diseases, against 75 and 63 in the two preceding weeks. These 66 deaths were equal to an annual rate of 2·1 per 1000, which corresponded with the mean rate last week from the same diseases in the 33 large English towns. The deaths from whooping-cough, which had been 14 in each of the two preceding weeks, increased last week to 19, of which 13 occurred in Glasgow and two in Dundee. The fatal cases of diarrhœa, which had been 14 and 19 in the two preceding weeks, were again 19 last week, and included six in Glasgow, six in Dundee, five in Aberdeen, and two in Edinburgh. The deaths from whooping-cough, which had been 24 and 15 in the two preceding weeks, rose again last week to 17, of which eight were registered in Glasgow, three in Aberdeen, two in Edinburgh, and two in Leith. The four fatal cases of scarlet fever corresponded with the number in each of the three preceding weeks, and included three in Glasgow. The deaths referred to different forms of "fever," which had been five in each of the two preceding weeks, declined last week to four, of which three were recorded in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 172 and 156 in the two preceding weeks, further declined to 134 last week, and were slightly below the number in the corresponding period of last year. The causes of 23, or more than 3 per cent., of deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 31·2, 35·2, and 36·4 per 1000 in the three preceding weeks, declined again to 28·9 during the week ending April 7th. During the past four weeks the death-rate in the city has averaged 32·9 per 1000, the rate during the same period being 20·4 in London and 22·6 in Edinburgh. The 194 deaths registered in the city during the week under notice were 50 less than the number in the preceding week, and included nine which were referred to the principal zymotic diseases, against numbers declining from 12 to two in the five preceding weeks; of these three resulted from measles, three from whooping-cough, three from "fever," and not one either from small-pox, scarlet fever, diphtheria, or diarrhœa. These nine deaths were equal to an annual rate of 1·3 per 1000, the zymotic death-rate during the same period being 2·0 in London and 1·0 in Edinburgh. The fatal cases of measles rose during the week to three, none having been registered in either of the two preceding weeks. The deaths referred to whooping-cough increased to three, against only one death from this disease in the six preceding weeks. The three fatal cases of "fever" showed an excess of two over the number in the preceding week. The 194 deaths in Dublin included 23 of infants under one year of age and 64 of persons aged 60 years and upwards; the deaths of infants and of elderly persons showed a decline from the numbers recorded in the preceding week. Four inquest cases and two deaths from violence were registered, and 65, or one-third, of the deaths occurred in public institutions. The causes of 14, or more than 7 per cent., of the deaths in the city during the week were not certified.

The death-rate in Dublin, which had been 36·4 and 28·9 per 1000 in the two preceding weeks, rose again to 34·3 during the week ending April 14th. During the past four weeks the death-rate in the city has averaged 33 7 per 1000, the rate during the same period being 21·0 in London and 23·0 in Edinburgh. The 230 deaths registered in Dublin during the week under notice were 36 in excess of the number in the preceding week, and included six which were referred to the principal zymotic diseases, against two and nine in the two preceding weeks; of these, two resulted from measles, two from "fever," one from whooping-cough, one from diarrhœa, and not one either from small-pox, from scarlet fever, or from diphtheria. These six deaths were equal to an annual rate of 0·9 per 1000, the zymotic death-rate during the same period being 1·8 in London and 1·0 in Edinburgh. The two deaths referred to measles showed a decline of 1 from the number in the preceding week. The fatal cases of "fever," which had been one and three in the two preceding weeks, declined again last week to two. The mortality from whooping-cough was also less than it had been in the previous week. The 230 deaths in Dublin last week included 34 of infants under one year of age and 63 of persons aged upwards of 60 years; the deaths of infants exceeded the number in the preceding week, while those of elderly persons showed a slight decline Nine inquest cases and nine deaths from violence were registered, and 82, or more than a third, of the deaths occurred in public institutions. The causes of 18, or nearly 8 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

FLEET SURGEON RICHARD G. BROWN is placed on the Retired List, with the rank of Deputy Inspector-General of Hospitals and Fleets.

The following appointments are notified:— Surgeons: J. C. Wood to Jamaica Hospital; P. V. Jackson to the *Britannia*; A. Maclean to the Royal Marines, Portsmouth; J. Chambers to the Royal Marines, Plymouth; and G. T. Bishop to the *Pyramus*.

ROYAL ARMY MEDICAL CORPS.

Major R. J. Windle, in charge of the Station Hospital at Mount Abu, is appointed to the civil medical charge of the station in addition to his own duties. Major J. G. Harwood is transferred from the Punjab to the Bombay command. Major J. W. Cockerill has embarked at Southampton in the s.s. *Canada* for Cape Town.

HONOURABLE ARTILLERY COMPANY OF LONDON.

Surgeon-Lieutenant E. H. Myddelton-Gavey to be Surgeon-Captain.

VOLUNTEER CORPS.

Artillery: 2nd Devonshire (Western Division, Royal Garrison Artillery): Henry Woolmington Webber to be J. C. G. Macnab is borne as supernumerary whilst serving with the Royal Army Medical Corps in South Africa. *Rifle:* Surgeon-Lieutenant. 1st Fifeshire: Surgeon-Lieutenant 2nd Volunteer Battalion the East Yorkshire Regiment: Captain Macleod resigns his commission. 3rd Volunteer Battalion the Cheshire Regiment: Surgeon-Lieutenant C. A. K. Renshaw to be Surgeon-Captain. 2nd Volunteer Battalion the Queen's Own (Royal West Kent Regiment): John Herbert Crangle Fegan to be Surgeon-Lieutenant. 2nd (South) Middlesex: Surgeon-Captain S. H. Moore to be Surgeon-Major. 4th Volunteer Battalion the Durham Light Infantry: Surgeon-Captain H. A. Collinson resigns his commission; Selby Wetherell Plummer to be Surgeon-Lieutenant.

THE QUEEN'S BIRTHDAY.

Notice is given in the *London Gazette* that the Queen's birthday will be celebrated in London alone on Wednesday, May 23rd, and at all other stations, naval and military, on Thursday, May 24th.

TRANSVAAL WAR NOTES.

General Sir William Butler, K.C.B., commanding the Western District, recently inspected the sick and wounded from South Africa who have recently arrived at the Stoke Hospital, Devonport. He spent a considerable time in the institution and made inquiries into the history and nature of each case. On leaving Sir William Butler expressed to the medical officer in charge (Lieutenant-Colonel J. R. Rahilly, A.M.S.) his pleasure at seeing the excellent arrangements for the treatment and comfort of the men.

The steamship *Clive* arrived at Southampton on April 16th. She carried 318 invalids for the Royal Victoria Hospital, many of whom were housed in the huts in the rear of the building. On the following day the steamship *Cheshire* arrived at Southampton from the Cape; she brought 188 sick and wounded to Netley, making a total of 506 patients admitted into the Royal Victoria Hospital during the week.

Major F. A. Harris, R.A.M.C., is among the wounded on board the *Orotava*, which left South Africa for England on March 31st. Major Burnside, R.A.M.C., is in medical charge of the vessel.

The Welsh Hospital, in charge of Major Cockerill, R.A.M.C., left England on April 14th. A considerable number of friends attended at Waterloo station, including Sir John Williams, chairman of the committee, and Lady Williams, Sir David Evans, treasurer, and Lady Evans, Mr. Wynne, Lord-Lieutenant of Merioneth, Professor Frederick Roberts, and Professor Alfred Hughes, the organising secretary. They embarked on the s.s. *Canada*.

Mr John L. Langman has just received from Lord Roberts at Bloemfontein a telegram which shows how highly the efforts of the medical staff at the front are appreciated by the authorities. It runs as follows: "I inspected your hospital here yesterday and congratulate you heartily on the efficient state in which I found it. Its value to our R.A.M.C. and wounded cannot be over-estimated.—ROBERTS."

On Tuesday, April 10th, Professor Thomas Jones and Surgeon Stephens left Manchester for London, *en route* for South Africa. A large number of friends and students were on the platform and "Auld Lang Syne" and the "Men of Harlech" were vigorously sung.

The *Kieler Zeitung* of April 14th publishes a long extract from the *Münchener Medicinische Wochenschrift*, consisting of a letter received by Professor Esmarch from his late assistant Stabsarzt Dr. Hildebrandt, who went with the first Red Cross expedition to the Transvaal. The letter, which was dated "Jacobsdal, Jan. 21st," was of exceptional interest because it was one of the first medical reports from the Boer army. Dr. Hildebrandt's account of the local medical men was not very favourable. He said that the Free State surgeons who had been treating the wounded seemed to have had but little surgical training (schienen keine grosse Vorbildung in der Chirurgie genossen zu haben), and were neither capable of judging of the condition of a wound nor of undertaking the necessary operations. They used to sit on the beds of the wounded, speak encouragingly to them, and give them internal medicines, narcotics and purgatives. The majority of the wounds were suppurating extensively under the dressings; in some instances bandages too tightly applied had caused bedsores, in others the cases which the German surgeons undertook—for the most part gunshot wounds of the brain—were affected with complications (cerebral abscess) which would have indicated the performance of an operation, but the favourable period for that was already past. The Germans had much trouble in putting things into better order, in addition to which there was at first great distrust of them on the part of the wounded, brought about by the efforts of the medical men of pro-British proclivities, who had preceded the Germans (das wohl grösstentheils auf die Bemühungen der englisch gesinnten Aerzte zurückzuführen war, die uns wichen). Dr. Hildebrandt described at much length the easy and prompt healing of the wounds caused by the small-bore bullets.

Lord Iveagh has received a telegram announcing that the Irish Field Hospital has arrived at Bloemfontein, all well.

TRANSVAAL WAR CASUALTIES.

It is officially announced that Surgeon-Captain Temple, Cape Volunteer Staff, reported wounded at Reddersburg on April 3rd, is not wounded.

DEATHS IN THE SERVICES.

Lieutenant-Colonel John Alexander Scott (retired list), Royal Army Medical Corps, at Nahun Sirmur, Punjab, on April 4th. He joined the Army in 1859, and retired in 1890. He served in the New Zealand War of 1861–62 and also in the South African War of 1881.

Fleet Surgeon Joshua Pasley Courtenay, R.N. (retired), on April 8th. He was appointed surgeon in 1860, became staff surgeon in 1872, and fleet surgeon 10 years later. He retired in 1890.

LITERARY INTELLIGENCE.—Messrs. Rebman, Limited, in the April issue of their catalogue announce two forthcoming volumes of the English edition of "Lehmann's Medicinische Handatlanten," a work which has already appeared in 13 different languages. The first, an "Atlas and Epitome of Diseases caused by Accidents," by Dr. E. Golebiewski of Berlin, will be ready shortly. It will contain 48 coloured plates, 200 text illustrations, and about 400 pages of text. The second, an "Atlas and Epitome of General Surgery," edited by Dr. Marwedel with the coöperation of Professor Dr. Czerny, is in preparation. This will contain 200 coloured illustrations.—The spring list of new books and new editions issued by Messrs. A. and C. Black, the publishers of the recently issued useful little book "Who's Who at the War," announces the forthcoming publication of "Microscopic Researches on Glycogen," Part II., by Dr. C. Creighton. This volume, which will deal with snails and slugs in morphological and physiological correspondence with the lymph system of vertebrates, will contain nine plates and be issued in paper covers at the price of 7*s.* 6*d.* "Sexual Dimorphism in the Animal Kingdom," a theory of the evolution of secondary characters, by Mr. J. T. Cunningham, M.A., price 12*s.* 6*d.* net, containing 32 illustrations, is also announced for publication; as is "Evolution and Theology," by Dr. Otto Pfleiderer, Professor of Theology at the University at Berlin.

Correspondence.

"Audi alteram partem."

THE MIDWIVES BILL.

To the Editors of THE LANCET.

SIRS,—I have no desire or intention of engaging in newspaper controversy, but a perusal of the leading article on the Midwives Bill in your issue of April 7th leads me to believe that a few words from one of its promoters may remove misconceptions and may assist those who are sincerely desirous of understanding its true scope and intent.

You rightly call attention to the expressed views of the General Medical Council, and in summarising them you ask how far they are safeguarded by the Bill as it now stands. Following the order of your summary I reply:—1. That the unlicensed practice of midwifery for gain as well as the false use of titles is made illegal by Clause 2 (2). 2. That the functions of the Midwives Board include the passing of regulations for the conduct and practice of midwives, and there is nothing to prevent their restricting such practice to normal cases if they are able to discover any infallible means of ascertaining in advance whether a case will be normal or not (Clause 4, I. (*d*)). 3. That the rules of the Midwives Board will be subject to the approval of the General Medical Council (Clause 4, I.). 4. That provision will be made in the Bill for re-imbursing the General Medical Council for any expenditure which they may incur in performing their duties under the Act. The Government have given notice of the necessary resolution (which cannot be moved by a private Member) upon which a clause to this effect will be introduced on the report stage. 5. The conditions under which licences (certificates) will be granted to midwives will be such as the Board may determine—Clause 4, I. (*a*)—and will, I should imagine, as they are subject to the approval of the General Medical Council, include such evidence of training experience and character as the Council may consider desirable. And these same rules might very well provide, and I think would rightly provide, that in cases of abnormality the midwife should seek qualified medical assistance.

Let me here point out that this and similar matters are better dealt with by rules, settled at leisure by a limited number of experienced and responsible men, and capable of being from time to time altered, enlarged, or restricted, as experience may suggest, than by words in a statute, suggested perhaps without consideration, accepted without reflection and settled irrevocably without possibility of amendment or improvement. The tendency of all recent legislation is to leave details to be settled by rules, and the Midwives Board with its preponderance of medical men may surely be relied upon to frame rules which will command the confidence of the profession, stamped as they will be with the approval of the General Medical Council. So much for the main points insisted upon by the General Medical Council who must, I think, allow that due "deference" has been paid to their views, when they come to consider the Bill as it stands now. The only difference between us, if difference there is, is whether every detail shall be settled by Parliament, which sometimes makes mistakes (virtually irrevocable), or by the Board, subject to the approval of the Council; and I cannot but think that for the reasons I have given the procedure by rule will commend itself to them.

I have said that these rules may provide for calling in medical assistance when necessary and they may also provide, if the Council think desirable, for the after-care of mother and child, but it is another thing altogether to impose upon a woman who may be unable to leave her patient and who, in the country at least, may have no available messenger at her command, a statutory liability to send for a doctor and to penalise her if she does not. If there is a common law liability upon her or upon anyone else in the house at the time—husband or other relative—the Bill does not abrogate it, and if there is not why impose one now and on one person alone? There would never be a conviction under such a clause. These and kindred matters are merely regulations of practice and hardly require the cast-iron rigidity of express statutory enactment. With regard to evidence of character being required from applicants for a licence (certificate), rules again will provide for this, except in the case of those at present holding the certificates of the R.C.P. Ireland or of the L.O.S., and as evidence of character is required before certificates are granted by those bodies I cannot cast upon them the slur of requiring fresh or further evidence without some proof that persons holding their certificate have proved unworthy in the past, and of this I have no suggestion. In any case local supervision would shortly weed out any indifferent characters, and ideal perfection is perhaps hardly to be obtained at the outset.

The only remaining point referred to in your article is with regard to the definition of midwife in the amended Bill which was introduced by me in all honesty and simplicity to meet an objection—very properly taken—that otherwise the monthly nurse, who in popular phrase does "habitually and for gain attend women in childbirth," would come within the Bill. The definition seems to me to draw the needful distinction between the monthly nurse who attends where a doctor is engaged and with whom we do not seek to interfere, and the midwife who attends without medical assistance, whose training we seek to improve and whose practice we wish to regulate. This is the simple explanation of the change which appears to have aroused such strange and inexplicable misgivings, a change which commended itself to the draftsman of the Bill, to the Solicitor-General, who represented the Government during its passage through Grand Committee, and to Lord Thring, the greatest living authority on drafting, and who at once realised, as I had always suspected, that the old definition, "a woman who undertakes for gain and in accordance with the provisions of this Act to attend women in childbirth," was really nonsense and would render the Act a voluntary one, a woman who did not undertake to attend "in accordance" with its provisions not being affected by it. The definition you quote as that of the General Medical Council is not much better, as the rider "who is not registered under the Medical Acts" is unnecessary in view of Clause 16; and if the Bill is only to apply to women who undertake to attend cases of natural labour a most dangerous, and in some cases criminal, class of practitioner would not come within it. This, of course, is hardly what the Council desire, but it would be the direct effect of their suggested definition. The explanation of the position of the definition clause, at the end of the Bill and not at the beginning, is equally simple. As drafted it was at the beginning. The Privy Council Office told us to put it at the end and that is why it is there now.

In conclusion, Sirs, allow me to say that the General Medical Council and other representative bodies in the profession have so often expressed their conviction that legislation upon this question is necessary and desirable that now it is possible I can hardly believe they will hinder where they might help and ignore the traditions of an honourable profession by delaying a reform the need of which they recognise, because every line, every word, every comma does not fulfil their ideal of draftsmanship. In substance their views are accepted and adopted.

I am, Sirs, yours faithfully,

April 16th, 1900. J. H. JOHNSTONE.

To the Editors of THE LANCET.

SIRS,—Had Dr. Glover been present at the crowded and enthusiastic meeting at Cannon-street Hotel which unanimously adopted the resolutions against the principle of the Midwives Bill and the views of those who like him support such registration I cannot doubt he would have taken a different attitude to that indicated by his letter published in THE LANCET of April 14th. A prolonged meeting especially consisting of busy medical practitioners is one calculated to become "attenuated," but those present at the meeting never numbered fewer than 30 at any stage of the proceedings and represented South-East London only. His refusal to coöperate with a large majority of his constituents (as proved by THE LANCET plébiscite) having been read to the meeting at his own request those present had no alternative but to reply in the form of a resolution. The meeting was unanimous in adopting the rejoinder which Dr. Glover has received.

But passing from this to the merits of the question, the Cannon-street Hotel meeting expressed what are the views held by an overwhelming majority of the profession. We are opposed to the principle of a Midwives Bill whereby women who have acquired a superficial training of a few months will be licensed as proficient in the practice of midwifery as

independent practitioners. This, we hold, would be opposed to the spirit and would be a reversal of the Medical Acts which were instituted for the guidance and safety of the public. It would further be seriously detrimental to the advance of the science of midwifery. On the other hand, Dr. Glover and his friends who have been supporting the principle of midwives registration and playing with this Bill with the false hope of "influencing details" are beginning to see that their efforts have been abortive, and we are awakening to the fact that our ruling and so-called representative councils may rule but do not represent us and that they have by inertia and compromise endangered the interests of science and the life of our nation in the future.

The Bill as now before the country does not provide for the midwife calling in medical aid in cases of danger; it certainly does not provide for punishing her should she fail to do so, and if it passes no Midwives Board could limit the powers given to her by Act of Parliament. But assuming it will acquire this authority we are also asked to assume that it will extend in some miraculous manner to the midwife (be she "trained" or untrained as many thousands will be on the passing of the Bill) a power of diagnosis and a tactile sensibility, the acquisition of which frequently taxes the best of us.

Take the attitude of the Council of the British Medical Association as typical of the compromising view. They are not quite satisfied with the present Bill and propose to perfect it by adding among other suggestions for a "Midwives Bill as amended" a schedule A, which was published in the *British Medical Journal* of March 24th and to which I refer your readers. The following are some of the cases in which the midwife (for I suppose the words "midwifery nurse" occurring in this schedule is a printer's error) is required to demand medical assistance:—(*a*) In the case of a pregnant woman having a narrow pelvis or in hæmorrhage or when the patient dies suddenly. (*b*) In the case of a woman during labour: in abnormal positions of the child, in smallness of the pelvis, or largeness of the child's head; in excessive pains followed by exhaustion, in hæmorrhage, presenting placenta, ruptured perineum, threatened danger, or death; in the apparently dead new-born child, and so on.

To my mind it seems preposterous for any body of medical men to suggest legislation which assumes that it is in the power of a woman after so many months' superficial training to diagnose, and that at the earliest stages, abnormalities which are of frequent occurrence, or even to assume that her place is other than extra-vaginal. This attempt to cobble up a retrogressive Bill suggests the two blacks which make a white and should indicate to the normal conscience and intellect that there is a vital flaw in the nature of the material, a rottenness at the root of such a growth.

I am, Sirs, yours faithfully,

Sydenham, April 16th, 1900. F. LORIMER HART.

*** This letter contains a contradiction on a matter of fact of our report. It is well that our readers should know that the report was accurate.—ED. L.

"THE STATISTICS OF THE ANTITOXIN TREATMENT OF DIPHTHERIA."

To the Editors of THE LANCET.

SIRS,—I have read with interest Dr. Hewlett's criticisms of my review of Mr. Paget's book on experiments on animals. I ought certainly to have spoken of omissions "from" and not "in" Mr. Paget's book, and I accept the correction in a chastened spirit, making no excuses! This, however, is the only admission of error I can make.

Dr. Hewlett suggests that "by cleverly choosing my years" I made the Somerset House figures support me. I desire to point out, however, that had I taken intervals of four years instead of five and concluded my table thus:—

Death-rate per 1,000,000 living from diphtheria	1892 ...	222
" " " " " "	1896 ...	292

I could have made the Registrar-General still more strongly support my contention that the introduction of antitoxin in 1894 had synchronised with an increase of the death-rate. Dr. Hewlett correctly observes at the end of his letter that it is inconceivable that these figures were not before me when I compiled my tables, and as I deliberately did not select those that would have most strongly supported my argument the fair inference to draw is the very opposite to the one he suggests. It is always dangerous to impute unworthy tactics to an adversary who can have no motive for entering the arena of discussion but the elucidation of truth. However, I willingly take Dr. Hewlett's own figures. He says, "if the figures for the years between 1892 and 1897 be inserted they show the very reverse of what Mr. Coleridge would have people believe." The figures he gives for these years are:

Year.	Diphtheria.	Croup.	Diphtheria and croup.
1892	222	76	298
1893	318	71	389
1894	292	58	350
1895	260	54	314
1896	292	51	343
1897	246	35	281

Now if we take the death-rate for diphtheria per 1,000,000 persons living to mean what it does mean and not something else, these figures show that it has risen from 222 in 1892 to 246 in 1897. The figures in the intervening years fluctuate up and down. But Dr. Hewlett desires to include the death-rate from croup, and by so doing he certainly produces a fall in the combined figures from 298 to 281. But Dr. Hewlett has forgotten that the cases dealt with in the croup column were certainly not *treated* with antitoxin, for as yet there is fortunately no anti-croup serum on the market, and the fall in the death-rate from croup, which disease has had the advantage of being opposed by a treatment unvitiated by any quack nostrum, shows in a very striking manner the superiority of ordinary clinical methods.

The death-rate from diphtheria proper being higher in 1897 than it was in 1892 before the introduction of the antitoxin treatment Dr. Hewlett attempts to counteract it by adding in the death-rate from croup which has both fallen heavily and escaped that treatment, and he then points to the combined figures in the vain hope of assuring the public of the efficacy of antitoxin. This impossible enterprise shows that, in common with Mr. Paget, Dr. Hewlett's prejudices are stronger than his arithmetic.

I am, Sirs, yours faithfully,

STEPHEN COLERIDGE.

Victoria-street, London, S.W., April 17th, 1900.

To the Editors of THE LANCET.

SIRS,—I am obliged to you for letting me see Mr. Coleridge's letter.

The point at issue between Mr. Coleridge and myself may be stated as follows. Mr. Coleridge contends that antitoxin is of no value and adduces certain figures from the records of Somerset House which, he says, support his contention. I, on the other hand, assert that the figures of Somerset House if taken in their entirety, which is the only fair method, so far from supporting Mr. Coleridge, prove, *if they prove anything*, as I stated (please note the limitation), the very reverse. Mr. Coleridge speaks of "Dr. Hewlett's own figures." They are *not* my own figures, every one, with the exception of those of case mortality which are London County Council figures, belongs to Somerset House and the table which I quoted, so far from being compiled by myself, is printed *in extenso* in the Registrar-General's Report for 1897 (p. xxiii.).

With regard to the identity of croup and diphtheria Mr. Coleridge will have none of it. Yet I still assert that the majority of cases of croup are cases of laryngeal diphtheria; in this I am supported by the general opinion of the medical profession, *and also by Somerset House*. If croup has nothing to do with diphtheria, why does Somerset House go to the trouble of misleading the public by adding together the death-rates from diphtheria and croup and printing a separate column of the combined death-rate from croup and diphtheria? My view of the identity of croup and diphtheria, which is not my own view alone, is absolutely supported by Somerset House, on which Mr. Coleridge relies, as the quotation from the Registrar-General's report for 1898, given in my first letter, proves.

However, I am quite willing to omit all reference to croup and to take the diphtheria figures only. With regard to "choosing his years" (the whole sentence was "cleverly

choosing his years and ignoring the admitted identity of croup and diphtheria")" I again assert that Mr. Coleridge, consciously or unconsciously, *has* chosen his years. Mr. Coleridge says that if he had taken the four-yearly period, 1892 and 1896, the figures would still have supported him. Quite so. But if Mr. Coleridge had taken the years 1893 and 1897, *and the chances are the same that he might have done so*, would they have supported him? No; they would have done the very reverse. By picking out figures for certain years, instead of giving *all* the figures, Mr. Coleridge *is*, I am quite ready to admit unconsciously, choosing his years. By giving the figures for *all* the years I show that the diphtheria death-rate was steadily rising up to the time when antitoxin was introduced. Since that time the diphtheria death-rate has been falling. Why should Mr. Coleridge choose 1892 and 1897 and say that because the diphtheria death-rate has risen from 222 to 246, therefore antitoxin is of no value? Have I not an equal right to take the years 1893 and 1897, and, because the diphtheria death-rate has fallen from 318 to 246, to argue that therefore antitoxin is of great value? My argument is just as valid as Mr. Coleridge's, 1892 and 1893 being both pre-antitoxin years. The fact is, that in each case the argument is based on *selected* figures, and being so is invalid and is mere statistical juggling.

Mr. Coleridge says I have forgotten that the cases of croup were not treated with antitoxin and that the decline in the death-rate from croup "shows in a very striking manner the superiority of ordinary clinical methods." I assert that the decline in the croup death-rate is due to a change in nomenclature. But admitting the validity of and following Mr. Coleridge's line of argument places Mr. Coleridge in the following dilemna. The steady rise in the death-rate from diphtheria up to the very time when antitoxin was introduced shows "in a very striking manner" the inferiority of ordinary clinical methods, while the decline in the death-rate from diphtheria since the introduction of antitoxin demonstrates in an equally striking manner the superiority of antitoxin treatment! The fact is, "death-rate" is absolutely worthless as an estimate of the value of a special line of treatment; case mortality is the only true test. In an infectious or contagious disease, whether it be diphtheria or scarlet fever or any other, the cure of a larger proportion of cases of the disease sets at liberty an increased number of individuals who may bear the infective particles and spread the disease, so that the *incidence* of the disease might not be lessened although the case mortality were greatly dimished by improved treatment. This fact is practically applied in dealing with outbreaks of infective diseases among our domestic animals; we do not attempt to save their lives but we stamp out the disease with the pole-axe or knife. Finally, Mr. Coleridge says that I have attempted to assure the public of the efficacy of antitoxin treatment. I have done nothing of the kind, I have asserted and still assert that the figures of Somerset House so far from supporting Mr. Coleridge, prove, *if they prove anything*, the very reverse. Whatever my own arithmetic may be the arithmetic I have quoted is that of Somerset House.

I am, Sirs, yours faithfully,

RICHARD T. HEWLETT.

Jenner Institute of Preventive Medicine, S.W.,
April 19th, 1900.

*** We sent Mr. Coleridge's letter to Dr. Hewlett for reply.—ED. L.

To the Editors of THE LANCET.

SIRS,—In reference to some remarks that have lately appeared in your columns the following figures may be of interest. An epidemic of diphtheria made its appearance in this district during the months of February and March, 1899. In all 40 cases were notified, the number of deaths recorded being five. Of this number two were not treated with the antitoxin and proved fatal; No. 3 was not injected until the fourth day, the result not being satisfactory. No. 4, that of a pregnant woman, was treated on the first day; she aborted, the hæmorrhage being severe, with a fatal result. No. 5 was not injected until the third day, the result being fatal. Of the remaining 35 cases the whole rapidly improved under the treatment, in each case the injection being used within the first 24 hours.

I am, Sirs, yours faithfully,

N. CULLINAN, M.D. Brux., D.P.H. Dub.,
Medical Officer of Health, Risca.

April 10th, 1900.

*** This correspondence must now cease.—ED. L.

THE CONFERENCE AT MANCHESTER ON MEDICAL ORGANISATION.

To the Editors of THE LANCET.

SIRS,—I desire through the medium of THE LANCET to make known to the profession the arrangements that have been made in connexion with the forthcoming Conference on Medical Organisation, &c. It will be remembered that the Conference has been convened at the instance of the Medical Guild, Manchester, and that the decision as to where it should meet was taken by a vote amongst the various societies. The voting papers were issued last December to all known societies and to all the branches of the British Medical Association in England and Wales and had to be returned by March 1st. The places selected as most suitable were London and Manchester, and the result was by a small majority in favour of the latter city. The Memorial Hall in Albert-square has accordingly been engaged for the purpose. Up to date 35 societies and five branches of the British Medical Association have promised to send delegates, but the committee still hope to receive the names of a few more societies willing to coöperate. The expenses are to be defrayed by a contribution of 6*d.* per member from each society represented, and this should be sent to the honorary treasurer, Mr. S. Bagley, Clowes-street, West Gorton, Manchester, not later than April 25th. The meetings of the Conference will be open to all members of the profession who care to come, though none but delegates will be allowed to speak or vote, and it is hoped that many practitioners in the neighbourhood of Manchester, at least, will avail themselves of the opportunity and show by their presence that they are in sympathy with the objects of the Conference.

All societies sending delegates were invited to frame resolutions for discussion at the Conference and to send them to the secretary by March 1st. From these and the papers promised the agenda paper has been prepared and was distributed to delegates and the secretaries of all societies in the first week of April. In order to make the decisions of the Conference really representative of the opinions of the profession it is necessary that these motions should be carefully considered by all societies and their delegates instructed how to vote. The meetings will take place on May 1st, 2nd, and 3rd, with two sessions on each day, the morning session commencing at 10 and the afternoon session at 2. The formal opening of the Conference will be by Mr. Alderman Walmsley, J.P., the President of the Medical Guild, and the actual proceedings will be commenced by a paper by Mr. Victor Horsley on the Medical Acts, and subsequently motions on the same subject and on the General Medical Council will be submitted. At the afternoon session Mr. R. B. Anderson, F.R.C.S.Eng., will read a paper on Medical and Corporate Reform, the midwives question will be discussed, and thereafter the subject of medical education will be considered. On the second day the morning session will be opened by Mr. George Brown (London) with a paper on Medical Charities, their Relations to the Public and to the Profession, and motions bearing on the management and abuse of these will afterwards be discussed, while the remainder of the session will be devoted to the subject of death certification reform. The afternoon session will be opened by Dr. T. Whiteside Hime of Bradford with a paper on Professional Secrecy and our Relations with the Criminal Law. Thereafter a motion on the working of the Vaccination Act will be discussed, and then four papers and a motion on various aspects of Contract Practice will be considered. The papers are by Dr. A. Cox (Gateshead), Dr. Alex. Stewart (Manchester), Mr. Geo. Jackson, F.R.C.S. Eng. (Plymouth), and Mr. Murtaugh Houghton (Ilford).

The subject of Medical Organisation will be the burden of the third day, and the proceedings will be commenced by Dr. Glover with a paper on Some Debated Points in the Politics of the Profession, followed by Dr. Jepson with a paper on Medical Organisation. The two previous days will have demonstrated clearly the utility or otherwise to the profession of a conference on these lines, and at the morning session motions will be submitted with the object of eliciting the opinions of the profession as to the general character of future organisation and of coming to some decision on the subject. In the afternoon a statement of accounts will be rendered by the honorary treasurer and a paper will be read by Mr. Garrett Horder (Cardiff) on the

British Medical Association from a General Practitioner's Point of View. A motion asking the Conference to appoint a committee to carry out its decisions will then be considered and the discussion of a further motion instructing this committee what action to take to give effect to the decisions of the Conference on the question of organisation will bring the labours of the delegates to a close.

In conclusion, my committee venture to hope that this will prove to be the first of a series of annual conferences on similar lines, fully believing that such a result will be of the utmost benefit to our profession and calculated to add to its dignity and status.

I am, Sirs, yours faithfully,

S. CRAWSHAW, M.B. Vict.,
Honorary Secretary.

Ashton-under-Lyne, April 16th, 1900.

THE BACTERIOLOGY OF TYPHOID FEVER.

To the Editors of THE LANCET.

SIRS,—In his recent Goulstonian Lectures Dr. Horton-Smith professes to give an account of the history of serum-diagnosis, but makes no mention of either my name or my work. Since his lectures may possibly be taken as authoritative on the subject, and as Dr. Horton-Smith is not alone in either ignoring or being ignorant of my share in the invention, I am induced to ask you to give publicity to the enclosed communication.

I am, Sirs, yours faithfully,

April 14th, 1900. ALBERT S. GRÜNBAUM.

[ENCLOSURE]

Die Unterzeichneten bestätigen gerne dass Herr Dr. A. S. Grünbaum zu Anfang des Jahres 1896 an dem Krankenmaterial der I. medicinischen Klinik in Wien systematische Versuche über die Agglutination von Typhus- u. Cholerabacterien durch das Blutserum von Kranken u. Gesunden angestellt hat, und dass er im März, 1896, also lange vor der diesbezüglichen Publication des Herrn Widal, an zwei Typhusfällen der Klinik die Beobachtung gemacht hat, dass ihr Blutserum in bedeutender Verdünnung Typhusbacillen agglutinire. Herr Grünbaum war sich der diagnostischen Verwerthbarkeit dieses Befundes vollkommen bewusst, u. er zögerte mit der Publication derselben nur mit Rücksicht auf die Nothwendigkeit, die Verlässlichkeit der Reaction an einer grösseren Anzahl von Typhusfällen zu erhärten.

Herr Dr. A. S. Grünbaum hat demnach die Agglutinationsreaction des Typhus-serums selbstständig entdeckt und es ist Sache der Gerechtigkeit dies anzuerkennen.

(Signed) { Prof. Dr. NOTHNAGEL.
{ Docent Dr. MANNABERG.

Wien, am 8. März, 1900.

[TRANSLATION.]

The undersigned confirm with pleasure that Dr. A. S. Grünbaum at the commencement of the year 1896 made systematic experiments with the material of No. 1 Clinical Ward in Vienna on the agglutination of typhoid and cholera bacteria by the serum of both sick and healthy persons, and that in March, 1896, therefore long before the publication of M. Widal on this subject, he had observed in two cases of typhoid in the ward, that their serum, in considerable dilution, agglutinated typhoid bacilli. Mr. Grünbaum was fully aware of the diagnostic utility of this observation, and he delayed publishing it only on account of regard to the necessity of confirming the reliability of the reaction on a larger number of cases of typhoid.

Dr. A. S. Grünbaum therefore discovered the agglutination reaction of typhoid serum independently and to acknowledge this is a matter of justice.

THE PREVENTION OF RHEUMATIC ENDOCARDITIS.

To the Editors of THE LANCET.

SIRS,—In the recent discussion on the Treatment of Rheumatism the most anxious consideration in the minds of the speakers was evidently and naturally a desire to secure the therapeutic measure best calculated to prevent the development of cardiac complications. The various suggestions and records of experience advanced in the discussion will, no doubt, be carefully studied by the profession, and in this way it is to be hoped the subject will be placed on a more practical basis. There is, however, one aspect of the question to which I find no explicit reference, and I shall be glad if you will allow me through your columns to draw attention to it.

It is admitted that in a considerable proportion of cases valvular disease develops in children and adolescents without any serious degree of arthritis and often with but slight constitutional disturbance. The experience is only too common in which one finds an endocardial murmur with no more definite history than an admission of slight pains in the limbs, or an attack of sore-throat, or some other condition known to be one of the rheumatic manifestations common in early life, the event at the time having been considered a trifling affair demanding neither rest in bed nor medical advice. With a view to try to prevent these disastrous occurrences, what I venture to suggest is that those responsible for the education of the profession should include in their teaching the proposition that it is the duty of every practitioner who discovers in any family under his care the evidences of rheumatism to warn the parents that even an apparently slight illness in any one of their children may be a rheumatic incident carrying with it the risk of heart disease. It is only in this way that the early and complete rest universally allowed to be the best protection against endocarditis can be secured for these children, and it seems reasonable to anticipate that were such a measure generally adopted the number of cases of heart disease developing under the circumstances just referred to would be sensibly diminished. In any event the practitioner could at least console himself with the reflection that he had done his best to secure the prevention of this grave calamity. So far as I have seen the responsibility which it is here suggested rests upon the profession is not insisted on in the teaching of the day. Hence I venture to ask your assistance in emphasising it. I am, Sirs, yours faithfully,

Weymouth-street, W., April 14th, 1900. C. O. HAWTHORNE.

"SMALL-POX AND VACCINATION."

To the Editors of THE LANCET.

SIRS,—It might have been well, for the sake of your readers, if I had given an extract from Jenner's treatise in my letter in THE LANCET of April 14th, which would save the trouble of referring to a work not always easy to obtain. It will be found on page 176.

In the early part of this inquiry I felt far more anxious respecting the inflammation of the inoculated arm than at present; yet that this affection will go on to a greater extent than could be wished is a circumstance sometimes to be expected. As this can be checked or even entirely subdued by very simple means I see no reason why the patient should feel an uneasy hour, because an application may not be absolutely necessary. About the tenth or eleventh day, if the pustule has proceeded regularly, the appearance of the arm will almost to a certainty indicate whether this is to be expected or not. Should it happen, nothing more need be done than to apply a single drop of the aq. lythargyr. acetati upon the pustule, and having suffered it to remain two or three minutes to cover the effervescence surrounding the pustule with a piece of linen dipped in the aqua lythargyr. compos. The former may be repeated twice or thrice during the day, the latter as often as it may feel agreeable to the patient.

A good deal of good could be done by providing those who are vaccinated with some ointment of precipitated sulphur or the dry powder and a piece of plaster, giving directions for applying this to the vesicle at the end of the week and covering with a piece of linen and then the plaster; or that the child should be seen for advice if there is any sign of severe inflammation.—I am, Sirs, yours faithfully,

ROBERT J. LEE.

Gunterstone-road, West Kensington, April 14th, 1900.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Stockport Workhouse.

FOR a long time past the board of guardians of the Stockport Union have been face to face with the necessity for hospital extension. One proposal was to extend the present workhouse at Shaw Heath and an alternative one has been to build a hospital at Stepping Hill. Endless discussion has taken place, but the question seems now to be approaching a settlement. On April 9th it was proposed and eventually carried: "That the board proceed to take steps to build hospitals at Stepping Hill and leave the existing workhouse as it is at present." The mover of the resolution said it would cost something like £70,000 to make the extensions required at Shaw Heath and would be less costly in the end to build at Stepping Hill. In the estimate an additional sum of £11,000 was put down for imbecile wards, but they would not be required. A Select Committee of the House of Commons had reported in favour of transferring the care of imbeciles to county authorities, and he said that Mr. Dansey, the Poor-law inspector for the district, had informed some of the guardians that it was

certain that in a short time they would be taken out of the workhouses. "Another reason against providing any more workhouse accommodation at present was the recommendation that as far as possible the deserving poor, as distinguished from the undeserving, should be placed in cottage homes, where they might live very much as they had been accustomed." The evidences of more humane treatment of the poor are more and more numerous, and would have given a terrible shock to the workhouse authorities of Oliver Twist's time.

Earth-shocks at Pendleton.

Some short time ago very distinct "earth-shocks" disturbed a good number of the people at Pendleton, and there was a short discussion on the subject at a meeting of the Manchester Geological Society on April 10th. Mr. De Rance stated in a letter that "the earth-wave in Pendleton and Seedley, though fortunately exceedingly slight, doing no further damage, apparently, than bringing down a coping-stone of St. James's Church, Church-street, was remarkable for the amount of noise experienced both on the surface and underground at Pendleton Colliery, at a depth of 3500 feet. In this respect it corresponded with the earthquakes he had experienced at Preston and Stoke-upon-Trent." Mr. Stirrup said that it was probably due to fault-slipping or perhaps from a little sinking going on in those lately worked coal districts. Mr. Dickinson stated that on April 7th in the Pendleton district at 1.17 A.M. he both heard and felt the earth-shock. The sound was as if the mortar of the walls were being crushed and dribbles of lime came down his bedroom chimney. It awoke and alarmed his household. The general opinion was that the shock was due to some earth-slip. An immense bed of sand overlays the district and the draining of the water from this sand might have something to do with the Pendleton people having such unpleasant experiences as they had of these earth-shocks. All seemed, therefore, to attribute the occurrence to a purely local cause.

Preston and the Inebriates Act.

The Inebriates Act was enforced for the first time in Preston on April 10th, when Mary McManus, a notorious character, was committed for three years. She seems to be one of the victims to a propensity that has become irresistible, having been 97 times before the court. Most of last year she spent in prison through drink. It is said that she has often pleaded to be sent to a home for drunkards.

Unsound Meat?

Four hours were spent by the Rochdale borough magistrates on April 11th in inquiring into a charge preferred against a local butcher of exposing for sale seven pieces of beef said to be unfit for human food. The town clerk conducted the prosecution. The evidence was as conflicting as that of experts often is. On one side the nuisance inspector, the sub-inspector, Sergeant Standring, and Mr. Herbert, the veterinary surgeon, "found the beef to be dark, flabby, wet, devoid of fat, and totally unfit for human food." It was therefore seized, condemned by a magistrate, and destroyed. The defending solicitor, on the other hand, said that he had 15 witnesses to prove that the meat was perfectly sound, that the animal was bought from a farmer at Shaw for £18 and was in good condition. Half the carcass went to a shop which the butcher had at Littleborough and the other half to the Rochdale shop. Dr. Pitcairn, the medical officer of health of Littleborough, and the nuisance inspector of the same place stated in evidence that the Littleborough beef was perfectly sound. Mr. H. Baker, veterinary surgeon, of Rochdale, said he examined the beef seized and found it sound, but it is not quite clear from the report which portion he refers to. The Littleborough beef was also pronounced "perfectly sound and healthy" by Mr. J. B. Wolstenholme, veterinary surgeon, of Manchester, and similar evidence was given by others. Beef that is dark, flabby, wet, and devoid of fat is not perfectly healthy, and one cannot help asking if the Littleborough and the Rochdale beef were from the same carcass. It looks as if possibly there might have been a substitution which would account for the discrepancy in the evidence and for what may have been a miscarriage of justice, for "the magistrates declared that owing to the conflicting expert evidence in the case the summons would be dismissed."

April 17th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Graduation Ceremonial of the Edinburgh University.

THE spring graduation ceremonial of the Edinburgh University took place on Saturday, April 14th, in the M'Ewan Hall. Among those gentlemen on whom the honorary degree of Doctor of Laws was conferred were two medical men—Mr. C. D. F. Phillips, M.D. Aberd., LL.D., and Mr. Anderson Stuart, M.D. Edin., Professor of Physiology in the University of Sydney. This degree was also conferred on, among others, His Excellency the Hon. Joseph Hodges Choate, Ambassador for the United States of America at St James's, and on Miss Eleanor A. Ormerod, F.R. Met. Soc., F.E.S. In presenting this lady to the Vice-Chancellor, the Dean drew attention to the fact that this was the first occasion on which an honorary degree had been conferred on a woman by the University of Edinburgh. Professor Seth, who occupies the chair of Moral Philosophy, delivered the usual address to the graduates. The service in St. Giles's Cathedral was conducted by the Rev. Professor Patrick, the Rev. A. R. Yeoman, and the Rev. J. B. Hastings.

The Laboratory of the Scottish Asylums.

The report of the pathologist of the Laboratory of the Scottish Asylums (Dr. W. Ford Robertson) for the year 1899 is an interesting account of the work done in the laboratory and the objects aimed at. During the year nine medical men received a laboratory course of instruction. Four of these were assistant medical officers of the associated asylums, two were from English asylums, and three were medical men not officially connected with such institutions. Dr. Robertson calls attention to the value of the library connected with the laboratory and points out that by means of this organisation the difficulty experienced by assistant medical officers of asylums in gaining access to neurological literature is now removed. All the important home and foreign neurological journals are to be had from the library, and these are purposely kept unbound, so that single numbers can be sent by post to those applying for a loan of them. Dr. Robertson expresses his regret that only seven reports had been issued during the year, and explains that delay in sending out reports has been due to the fact that throughout the year he had been very fully occcupied with the Text-book of Pathology in Relation to Mental Diseases which he had undertaken to produce with the consent of the committee. The demonstration sets of microscopic preparations had been largely in request during the year. It has been provisionally arranged that the pathology of the acute insanities shall be made the subject of special investigation in the laboratory. If this purpose is carried out the inquiry will extend over a number of years, necessitating as it will researches of a histological, bacteriological, and chemical nature. Dr. Robertson then proceeds, in answer to a request which had been made to him, to explain in a manner comprehensible to non-medical persons the objects of the laboratory and the means used to further them. He shows in the most lucid manner the importance of scientific investigation in medicine, and of pathological work more especially, pointing out also the necessity of appointing men to give their whole energies to such work. Most important, however, are the statements which Dr. Robertson makes towards the end of his report. In considering the aims and methods of the laboratory he says that the question must be faced whether or not the efforts at present put forth are adequate for the attainment of the objects in view. There were two standards by which this might be judged: (1) the amount of work waiting to be done and (2) what was being done by people of other countries. The amount waiting to be done was limitless and recent discoveries had opened up vast fields of research. A specially important recent development had been in the department of chemical investigation and there were the strongest reasons for expecting most important results from this line of investigation. In the Scottish Laboratory, however, there was neither room nor equipment for such work although it was imperative that it should be taken up. As regarded the work done in other countries Scotland was, even proportionately, far behind England, the United States, Italy, Germany, and France as regarded the part she took in the work. In England the London County Council had built and equipped a laboratory for this work which was

carried on at a cost of £1000 a year, while in Lancashire and Yorkshire each of the large asylums had a pathologist who was almost exclusively engaged in research work. In the United States the greatest effort was being made in the State of New York. In 1895 the Legislature had authorised the establishment by the State Commission in Lunacy of "a department for the special study of mental pathology and allied subjects in connexion with the State hospitals, and primarily for their benefit." The Pathological Institute of the New York State Hospitals had been the outcome of this. This institute was now in full working order and contained eight departments—viz., those of Normal Histology, Pathological Histology, Cellular Biology, Bacteriology, Physiological Chemistry, Psychology, Anthropology, and Comparative Neurology. Each department was in charge of a specialist, the whole being under the supervision of a director. This laboratory cost over £7000 a year. In Italy practically every university and asylum had its institute or laboratory in which the work could be pursued. To remedy the present state of matters in Scotland Dr. Robertson is of opinion that chemical physiology and pathology must be taken up and assigned to a thoroughly trained chemical physiologist. At least two separate departments were needed in the laboratory—a histological or anatomical and a chemical. Each should be in charge of a specialist whose duty it should be to make original investigations in his own field and to encourage the prosecution of similar work by others, both in the laboratory and in the various asylums. Such a scheme would cost double the amount of money at present expended, but even that would not be out of proportion to the amount at present spent by the London County Council and the New York State Commission in Lunacy. The only other way in which the difficulty might be solved lay in the provision of an endowment. The work had claims to which the attention of wealthy philanthropists might justly be directed and it was easy to believe that those claims only needed to be clearly represented to ensure a ready response in some quarter or other. An appendix to the report gives a list of publications containing records of researches carried out in the laboratory or in association with it. The report of the General Board of the Royal Asylum speaks in the highest terms of the work done by Dr. Robertson. The board have decided to accept the offer of the Royal College of Surgeons, Edinburgh, to occupy its laboratory when the lease of their present premises expires in August. The board heartily concur in all that Dr. Robertson says in his report for 1899. The expenditure for the year amounted to £630 6*s.* 1*d.* The associated asylums had contributed £650 10*s.*, so that there was a small balance on the right side. Dr. T. S. Clouston is to continue to act as secretary and treasurer, and Dr. Campbell Clark was appointed chairman of the executive committee for the year.

April 17th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Mater Misericordiæ Hospital, Dublin.

Her Royal Highness Princess Caristian, accompanied by her Excellency Lady Cadogan, the Countess of Arran, and Lord Chelsea, paid a visit to the Mater Misericordiæ Hospital at noon on April 17th. The distinguished visitors were received by the Lady Superior, with Sir Francis Cruise, Sir Christopher Nixon, and the other members of the medical staff, by whom they were conducted through the spacious wards of this the largest of the Irish clinical hospitals.

The Royal Hospital.

Her Majesty the Queen, accompanied by the Duke of Connaught, paid a visit to the Royal Hospital, Kilmainham, on April 15th, and was presented with a bouquet by the oldest inmate of the institution.

The Irish Field Hospital.

Lord Iveagh has received a telegram announcing that the Irish Field Hospital has arrived at Bloemfontein—all well.

Death of Mr. Robert Glasgow Patteson.

Mr. R. Glasgow Patteson of Lower Baggot-street, Dublin, died on April 11th after an illness of some duration. He was a distinguished graduate of the University of Dublin, a Fellow of the Royal College of Surgeons in Ireland, and recently a member of its Court of Examiners in Surgery. He was, moreover, for some years one of the surgeons to the Meath Hospital and County Dublin Infirmary, where his death leaves a vacancy in the staff of that important clinical institution—deficient just now on account of the absence of Sir William Stokes, who is at the seat of war in South Africa. Mr. Patteson was the author of many contributions to the literature of medicine, surgery, and dermatology, and was universally recognised here as a man of the highest promise. He was in delicate health for some months, but his untimely death at the age of 38 years has been a source of grief to his many friends. He died at his mother's residence near Dundalk, and was interred in the family burial-place there.

The Ulster Medical Society.

At the usual monthly meeting of the Ulster Medical Society held on April 5th Dr. Howard Sinclair showed a patient after six months' open-air treatment for acute pulmonary phthisis and Dr. J. S. Darling read (*a*) notes on a case of Intussusception treated by Inflation of the Bowel and notes on two cases of Intestinal Obstruction with Special Reference to Misleading Cessation of Acute Symptoms. In the discussion which followed Dr. W. Calwell, Dr. H. L. M'Kisack, Dr. A. Fullerton, Dr. A. B. Mitchell, Dr. John Campbell, Dr. J. Lynass, and Professor Byers took part. A resolution was unanimously passed expressing the sympathy of the members of the society with Dr. J. B. Moore in the recent vexatious trial through which he has been obliged to pass and congratulating him on the result of the legal proceedings.

The Infectious Diseases Hospital, Belfast.

At a meeting of the Belfast Asylum Committee held on April 9th the medical superintendent, Dr. W. Graham, presented a report giving statistics as to the views held by asylum authorities on the quantity of land required for such institutions. The General Board of Lunacy (Edinburgh) has steadily pressed the view that no district asylum should possess less than a quarter of an acre of land per patient accommodated, and the following tabular statement, embracing all the district asylums in Scotland and extracts from the report, shows the result of this recommendation:—

District Asylums of Scotland.	Acreage of land attached to the asylum, exclusive of land occupied by buildings.	Asylum at date of last official inspection.
Argyll	522	371
Ayr	104	358
Banff	140	129
Elgin	144	142
Fife	94	411
Haddington	41	125
Inverness	176	503
Mid-Lothian	108	242
Perth	71	321
Roxburgh	33	214
Sterling	267	441
Glasgow city	347	554
Govan	171	444
Lanark	606	430

"It will be found that in Dublin the average number of patients per acre are four; in Cork, nine; Mullingar, two; Londonderry, one and a half; Omagh, four and a half; Monaghan, seven; Downpatrick, three and a half; and in Antrum, three. The recently erected asylum in England, the West Sussex Asylum, which has just been built (1899), has 245 acres of land for 450 patients; the Middlesex Asylum Committee (Napsbury) has just purchased 406 acres to build an asylum for 1000 patients and the Leeds Asylum (Menston) has 318 acres for 925 patients." In conclusion, the report of Dr. W. Graham contained the following:—"Extract from the State Commission on Lunacy (New York).—'We regard the extension of the agricultural experiment as one in entire harmonary with modern methods of treament and of pleasant promise as a means of relieving the institution of patients who no longer need the appurtenances of a less lenient custody behind stone walls, grated windows, and bolted doors.'"

Alderman J. Graham, M.D. R U I. (chairman of the Public Health Committee), said that it was proposed to allow for the 850 patients in Belfast double the land of any of the other asylums. If the medical superintendent wanted more land no one would support him more readily than he would. A special meeting of the corporation is to be called to receive a deputation from the asylum governors and to consider the whole subject. The questions at issue are really the following. The Public Health Committee of the corporation advocate the building of an infectious diseases hospital outside the city of Belfast, at Purdysburn,

and they propose to alienate from the asylum grounds there 65 acres of ground for this purpose. The asylum authorities, on the advice of their medical officer (Dr. W. Graham), say that if this is done it will be utterly impossible to carry on the modern out-door plan of the treatment of lunacy. If the infectious diseases hospital were built as suggested, Dr. W. Graham calculates that only 88 acres would be left for the asylum, and that under these circumstances it would be wiser to abandon Purdysburn altogether and to seek another asylum site. But there is a third view, and that is the one advocated by the deputation of medical men representing the great bulk of the profession who appeared before the City Council recently and advised against the Purdysburn district for the infectious hospital on the ground of its great distance from Belfast, and recommended the site at the old asylum in Grosvenor-street. It is also stated that there is another convenient site available at Old Park. The Public Health Committee ask for 65 acres at Purdysburn for the Infectious Diseases Hospital. Some advocate taking a much less area, and they say that at Birmingham the Infectious Diseases Hospital has an estate of only 27 acres (and that hospital is much larger than the one proposed for Belfast), and that if the Public Health Committee of Belfast would shrink their demands for the infectious hospital, room might be found at Purdysburn for both it and the asylum, as additional land can be rented or bought there. The difficulty about this solution is that the wisdom of having an infectious diseases hospital near an asylum is questionable, and it is said that the Board of Control of Asylums in Dublin may in the end be obliged, by the force of scientific alienist opinion, to interfere and to refuse to sanction the building of an infectious diseases hospital in the vicinity of the asylum, although at the outset they may have appeared to sanction it. The whole question of the treatment of lunacy is now in such a transition stage that they may see grounds for altering their original views which seemed to permit of the inf ctious hospital being located at Purdysburn.—At a meeting of the Belfast City Council in committee on April 12th, after hearing a deputation from the Asylums Board who urged upon the council the desirability of reconsidering the whole question, as in view of the large number of patients to be treated in the asylum and the methods adopted by modern practice every acre of the ground would be required for asylum purposes, it was decided, after a lively discussion, to refer the whole matter again to the Public Health Committee for reconsideration. This result was arrived at after a division in which the voting was equal, the Lord Mayor supporting the reconsideration policy by giving his casting vote in favour of it.

April 17th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Professional Ethics.

AN unfortunate occurrence has just taken place in a country town, showing how much still remains to be done in France towards the attainment of a satisfactory standard of professional ethics, such a standard being seldom realised in actual fact, although often applauded as an ideal. A young woman eight and a half months pregnant, suffering from contracted pelvis and albuminuria with threatened eclampsia, had been attended by a medical man who, after consultation with another practitioner, resolved to induce premature labour. Notwithstanding their endeavours the two practitioners did not succeed in accomplishing this result, and they had to send the patient to the maternity hospital of the town with a view of cephalotripsy being performed by the *accoucheur en chef*. The latter, a young medical man, did not consider the operation to be urgent and he accordingly did nothing, the consequence being that the woman died at the end of two days. Some days afterwards the first medical man was summoned before a magistrate at the instance of the husband of the deceased on a charge of homicide by imprudence, the charge being supported by a declaration made by the hospital accoucheur who laid all the blame for the disaster on the treatment adopted by the two practitioners. A necropsy which was ordered to be made proved that death was due to natural causes and brought about the acquittal of the two practitioners. The behaviour of the young *accoucheur* belonging to the hospital aroused such general indignation that the local medical society of which he was a member thereupon held a meeting and unanimously expelled him on the ground of his having committed a serious breach of professional ethics.

Professional Secrecy.

An imprudent remark made by a Paris gynæcologist has recently very nearly brought him into trouble. He had been sent for to Asnières by a local practitioner to see a young woman who was employed in a large dressmaking establishment in Paris and who was in a serious condition as the result of an abortion. With the aid of his colleague the medical man resorted to curettage; the immediate effects were excellent, but 18 days afterwards the patient, who seemed to be convalescent, was seized with phlebitis and died rather suddenly from embolism. After the death the gynæcologist had the imprudence to say to the young woman's mother that he was convinced that the abortion was the result of an illegal operation. She foolishly repeated the remark among her acquaintances and many persons soon concluded that there had been an illegal operation and that it had been performed by the gynæcologist himself. Information was given anonymously to a magistrate who summoned the two medical men to appear before him and ordered an examination of the body of the deceased. This necropsy, made by MM. Maygrier, Socquet, and Brouardel, easily proved the propriety of the curettage and at once exculpated the two medical men. The inquiry set on foot by the magistrate resulted in the discovery of a young man who was on terms of intimacy with a female acquaintance of the deceased in the dressmaking establishment. A search made at his place of abode brought to light instruments capable of creating suspicion, such as a speculum, a uterine sound, &c. It was impossible, however, to take proceedings against him, for no direct proof could be obtained of his having committed the act, and he declared that the instruments found with him had been the property of his father, now deceased, who was a medical man. No further steps were therefore taken against the two practitioners, and the gynæcologist has now the opportunity of reflecting at his leisure that professional secrecy is a protection rather than a hindrance to a medical man, and that both his interests and his duty impel him to observe it.

Typhoid Fever in the Army.

A soldier who becomes the subject of bodily incapacity while on service receives a pension of variable amount, which may be considerable in the event of his mishap having occurred whilst carrying out an order given to him by his superior officers. A smaller pension is given if the accident is of an everyday nature and not connected with the military duty of the soldier and it is possible that no pension at all may be given if the soldier has been the victim of an illness or an accident to which he might have been as liable in his own home as in the regiment. It is requisite to make this distinction in reference to the responsibility of the State on the one hand and the interests of disabled soldiers on the other. Some importance, therefore, attaches to the circumstance that the Conseil d'État has just declared that ill health consequent on typhoid fever contracted by a soldier in barracks implies the responsibility of the State and confers the right to a pension. This recent view of the case has much to recommend it, firstly, because it is in conformity with the ideas of modern science on the etiology of typhoid fever in barracks; and secondly, because it compels the State in its own interest to provide soldiers with water perfectly free from contamination with Eberth's bacillus.

Pasteur Institute in Madagascar.

A Pasteur Institute near Tananarive, Madagascar, established at the instance of General Galliéni when he was Governor-General of the island, has just been formally opened with much ceremony. General Pennequin presided, and Dr. Thiraux, director of the institute, made a speech in which he related the history of the enterprise and declared it to be a complete success.

Precautions to be observed by Pharmaceutical Chemists.

The Société Française d'Hygiène has been giving attention to the lack of cleanliness shown by many pharmaceutical chemists, and especially by their apprentices, in the dispensing of medicines. With many of them the dirty state of their clothing and beards has become proverbial. The hands of many of them are dirty, and when different

preparations are being made up the implements employed for the purpose are not always carefully cleaned after use. Even in the establishments of those who believe that they observe the rules of ordinary cleanliness it frequently happens that bottles containing mixtures are corked in a way that has nothing to recommend it. The principal anxiety of the druggist being that the bottle should bear his business designation as often and as plainly as possible some have now adopted the method of affixing, in addition to the ordinary label, a label which covers the cork and which has to be broken before the bottle can be opened To save time they content themselves with cutting off the cork even with the neck of the bottle and making the label adhere to the glass with the help of saliva, a practice which is obviously at variance with aseptic principles. Others when putting up medicines in cachets close the latter by means of saliva. The Société d'Hygiène has expressed the opinion that pharmaceutical chemists should discontinue these practices which are both nasty and unwholesome.

April 16th.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

On the Best Method of Sterilisation of Cocaine and Atropine Solutions.

DR. SIDLER, private assistant of Professor Haab in Zürich, has made a lengthened and thorough investigation on this important subject. Finding that anæsthesia of the cornea ensued after the use of three drops of a 3 per cent. cocaine solution (or one and a half grains to the ounce), and finding variations in the strength of the same and also in the best solution obtainable—viz., that of Merks, which has been used by Professor Haab for three years—he concludes that cocaine solutions lose their strength by sterilisation; four or five drops of the solution used by Dr. Sidler after sterilisation and even more after repeated sterilisation were necessary to obtain the same effect in the same subject. This refers to sterilisation by exposing the solution in an open bottle for 20 minutes to steam, whereas the process of rapidly heating the solution three times following to boiling point does not affect the efficacy of the solution. The immense importance of having absolutely sterile solutions is evident, but out of 470 solutions examined cocci or bacteria were found in 24, proving beyond doubt that solutions even when properly sterilised at first can subsequently become re-infected. An examination of the antiseptic properties of different substances leads Dr. Sidler to exclude boric acid for want of efficacy and salicylic acid on account of its irritative properties, whereas a fresh sublimate solution of 1 to 10,000 and even an old carbolic solution of 1 to 100 were equal in their antiseptic properties. Dr. Sidler recommends alcoholic solutions as admirably adapted for the mother solutions, as they keep aseptic for years. He considers a solution of three to 20 grammes, or of five grains of cocaine, to two-thirds of an ounce of a 40 per cent. solution of pure alcohol in water the best, and urges its being kept in a glass bottle previously sterilised, and recommends a new drop-bottle easy of sterilisation for use whenever the solution is wanted. Thus every possible danger of infection can be avoided.

Swiss Mortality Statistics for 1899.

The Federal Statistical Department has published its report for 1899 with a death list of 58,052 for a population estimated at 3,144,741, or a mortality of 18·4 per 1000 inhabitants. The infantile mortality was high, representing 22·5 per cent. of the total, but there was a percentage of 20 deaths of people over 70 years of age. The deaths from infectious diseases numbered only 4 per cent., those from organic heart disease 4·4 per cent., and those from cerebral hæmorrhage 3·9 per cent. Accidental deaths showed a rate of 5 per cent., a small fraction of these—only 168 in number—being suicides, or only three in 1000. Congenital debility accounted for 6·6 per cent. of the mortality and senile marasmus for 7·1 per cent., whilst phthisis, together with other tuberculous diseases, stood prominent with a percentage of 15·6, surpassed only by diseases of the respiratory organs, which were 17·8. Very few (41) fatal cases of influenza were reported. Only 2738, or less than 5 per cent., of the deaths were not medically certified. The surplus of births over deaths amounted to 36,619.

April 10th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

"Pro Montibus."

THE floods in Upper, Central, and Southern Italy, which for days past have been threatening the lines of railway, damaging and, in some quarters, totally destroying the crops and virtually prolonging the already severe and belated winter, have served to bring once again into the foreground that most pressing of Italian problems—the re-afforesting of the denuded hillsides. Associations bearing the above title are being formed throughout the kingdom with the object of stimulating Government to an attempt at least at the solution of the problem, while private initiative is already showing the State how it may reinforce provincial authority, municipal and commercial, on its way to the end in view. A beginning, it seems, is to be made near Florence, the climate of which, variable and even treacherous, particularly at transition periods from autumn to winter and from winter to spring, has suffered disastrously by the reckless tree-felling practised without compensatory re-planting within the last 50 years. The noble Monte Morello rising on the Fiesole side of the town, the "waving woods" of which have long disappeared mainly as fuel for the "forestieri," and are now represented by the most dwarfish undergrowth or "macchia," is to be the "corpus"—far from "vile"—on which the experiment is to be tried. Fortunately its fate has been less hard than that of its congeners far and near from whose sides the "binding soil" has been gradually washed away leaving only the bare rock on which re-planting is impossible. It still retains enough coating of humus on which trees of various kinds may strike deep root and attain sufficient height and growth of stem to develop branch and leaf and to restore to the locality its power to attract and detain moisture and to obviate torrential rainfall by the slow, steady absorption and exhalation which keep the water-courses from drought in summer and from flood in winter. Pasturage is to be prohibited from certain of its tracts and the small proprietors are to be compensated by rewards, taking the form of more or less substantial prizes for the trees, "sani e vitali," which they succeed in cultivating. The experiment will be watched with much interest, and its success may induce the Government to go a step further and to initiate effective reforms in its protection of wooded localities. At present there is a nominal "service" by which tree-felling is controlled, but, like every organisation of the kind in Italy, it is so wretchedly underpaid that its duties are more honoured in the breach than in the observance. The mounted police who patrol these localities in pairs and are supposed to keep an eye on every feller of a tree who cannot produce an authorisation get each of them 40 francs (£1 12*s.* 6*d.*) a month, out of which they have to maintain their horse. What wonder, then, if they often wink at the unauthorised felling of a tree and share the proceeds? And it is notorious that such "irregularities" are rife.

Oysters and Infective Diseases.

The "harvest of the sea" is threatened in one of its most prolific fields—that of oyster-breeding. In Italy, as in the British Isles, the propagation of infective disease by oysters is now a recognised danger, and at various points on her coasts—particularly where populous seaports discharge their sewage—the oyster-beds have become neither more nor less than fever preserves. At Naples, indeed, the recent sanitary works by which the effete matter of the city is now carried inland have reacted for good on the local oyster-beds and their produce, after a period of distrust and disuse, is now rehabilitated in gastronomic esteem. Not so, however, in quarters where sanitary reform is still backward. At Taranto the alarm aroused by the suspected propagation not only of typhoid fever but of diphtheria by its justly celebrated oysters has led to the appointment of a "Commissione Sanitaria" to inquire into the condition of the beds, and the report of the commission is awaited with much anxiety on the part of the public and still more on that of the breeders whose industry, partially suspended, is menaced with a "quarantine" more or less prolonged. The whole subject, indeed, is one of pressing importance for Italy which, like other poor and necessitous nationalities, is in danger of losing a profitable source of revenue by over-working it and by neglecting the conditions under which it can be properly maintained, if not extended. Over-dredging

has greatly reduced the area of her oyster-fields—as if her custom of consuming their produce all the year round without the intervention of "a close time" were not enough to diminish it in quantity and deteriorate it in quality.

April 9th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

The Tenement Houses of New York and Tuberculosis.

BILLS relating to tenement house legislation have been introduced into the New York Senate, vigorously backed by the organised charities, their object being to secure much-needed reforms in tenement houses. The Bills in question authorise the governor to appoint a tenement house Commission to inquire into the construction of tenements, rentals, effect of these buildings on the health and morals of their inmates, and other problems connected with the subject. The statement has quite recently been made that Governor Roosevelt has seen fit to appoint such a Commission so that a revision of the present tenement laws may shortly be looked for. Whatever may be the divergence of opinion among specialists on tuberculosis as to the degree of the contagiousness of the disease, on one point all are agreed—viz., that pure air and sanitary houses are the most important factors in controlling its spread. Probably the old-fashioned tenement houses as they exist in New York and in other large cities go further to promote the propagation of tuberculosis than any other cause. The Charity Organisation Society of New York have been for some time conducting a vigorous crusade against the municipality and owners of tenement houses of New York with the object of inducing them to institute reforms in the present methods of constructing these buildings as well as to demolish the ancient structures. In the beginning of April a tenement house exhibition was held in New York under the auspices of the above society, where models, plans, photographs, maps, charts, and tables of statistics were on view showing existing conditions in New York tenement houses and model tenements all over the world. It is stated that the present condition of the tenement houses of New York is so serious that the evils arising therefrom are a distinct menace to the welfare of the community. There are at present over 44,000 tenement houses in the old city of New York and new tenement houses are being erected at the rate of about 2000 per year. These are in many respects worse than the old buildings erected 30 years ago. They are badly constructed and so planned that many rooms depend for their light and air entirely upon long, narrow, dark "air-shafts" which, instead of giving light and air, are merely stagnant wells emitting foul odours and disease. In the opinion of the Charity Organisation Society of New York the solution of the tenement house problem lies along three distinct lines: (1) through the enactment of wise restrictive legislation; (2) through the building of model tenement houses as commercial enterprises; and (3) through the improvement and proper management of old tenement houses and the condemnation of buildings which are unfit for habitation. The efforts of the society are being ably backed both by medical and lay journals, the *New York Medical Record* in particular paying especial attention to the subject. It is now generally regarded as a fact that tuberculosis is to a very large extent a preventable, if not a curable, disease. The most effective means of checking its spread are properly-carried-out measures of prevention. Sanatoria and special hospitals are of course necessary, but the solution of the tuberculosis problem really lies in good sanitary laws, physical culture of the rising generation, and, above all, in the proper housing of the people and especially of the poor. It is certain that the plague of consumption will never be effectually stayed so long as the present class of tenement houses are allowed to exist.

An American Disinfecting Steamer for Havana.

The great use of a floating disinfecting plant has been amply demonstrated on many occasions. The successful and rapid disinfection of troops and troopships which had returned to the United States from Cuba in 1898 by means of the disinfecting barge *Protector* belonging to the United States Marine Hospital Service is a notable case in point. The new disinfecting vessel, which was designed under the supervision of the Bureau of United States Marine Hospital Service, is provided with all the latest disinfecting and fumigating machinery and is claimed to be the most complete disinfecting plant in the world. She will be stationed at Havana, where there will be undoubtedly found ample opportunity for putting her usefulness to the test. In addition to formaldehyde apparatus and sulphur furnaces the *Sanator* is supplied with bichloride of mercury apparatus, described as follows in *Marine Engineering*. "An 1800-gallon steel tank for the storing of bichloride of mercury solution is located in the hold amidships, on the starboard side. Above this in the deckhouse is a 40-gallon mixing tank with connexions for steam and water as well as a connexion to the large tank below. The proper quantity of the chemical is mixed in the small tank and allowed to flow into the large tank, into which has already been pumped a quantity of water sufficient to make the required solution. Near the large tank in the hold is a special horizontal duplex pump, having steam and water cylinders of four and a half and two and three quarter inches diameter respectively, and a stroke of four inches, its water cylinder, valve guards, and connexions being made of iron and the valves of rubber, it having been found that the bichloride solution acts less quickly on these materials than on brass. This pump has section connexions to the sea, the bilge and bichloride tank and delivers to the same tank, to the bichloride pipe system or overboard. Its principal purpose is to take solution from the tank and force it through the bichloride pipes to hose plugs located on the four corners of the deckhouse and to two hose plugs in the hold. By means of the two-inch hose and spray nozzles, the solution can be sprayed as a disinfectant in any part of the ship or in any part of a vessel alongside being disinfected." The bathing facilities provided on board the *Sanator* are extensive and the water-supply, both fresh and sea, is practically unlimited. The vessel is lighted by electricity and the ventilating plant is designed to renew the air entirely in all parts of the hold every five minutes. Taken altogether the *Sanator* represents the most advanced specimen of this type of ship that sanitary engineering science has as yet produced.

State Hospital for Consumptives of New York City.

After much discussion it seems now that the idea of building a large hospital in the country at a convenient distance from New York where its indigent consumptives may be treated bids fair to be realised. The project has received the earnest support of the majority of New York physicians, not only on account of the contagiousness of tuberculosis and for this reason that those infected may be the means of spreading the disease throughout the general hospitals which take in such cases, but also because it will relieve these institutions of the expense which is involved in the treatment and care of consumptive patients. The Bill introduced into the legislature of New York State by Assemblyman Henry for the establishment and endowment of a separate hospital for the treatment of pulmonary consumption in the city of New York has passed the assembly and will doubtless shortly become law. The *New York Herald* of April 1st, commenting on the matter, makes the following significant remarks: "On general principles it is eminently proper in the lights of precedent and guaranteed uniformity of methods to entrust the health boards with the construction and management of these institutions provided it can be understood that appointments on the medical staff are based on other than purely political qualifications. Such an institution should command the service of the best medical talent available."

Adulteration of Food in the United States.

The report of the Committee on manufactures of the United States has recently been published. One of the articles which is frequently adulterated is condensed milk. Sugar made in the United States by the Sugar Trust Factories is, according to the Committee's report, wholly free from adulteration. Glucose is used largely for the adulteration of syrup, especially maple syrup. Fruit extracts and vanilla are commonly adulterated, and alum is used generally in the manufacture of baking powder. Among the breweries inspected only two were found in which preservatives were mixed with the beer. The Committee saw no reason to object to the use of corn and rice and other cereals in the manufacture of beer, and held that the exclusive use of malt and barley should not be required. Salicylic acid was not considered dangerous. Oleomargarine was declared to be a wholesome and nutritious food. The report states that candy is adulterated to a very large extent and that large quantities

of aniline colours are used for colouring it. It is recommended that this, as well as the use of terra-cotta, should be interdicted. A special Bill is proposed in regard to the adulteration of wine. Much of the champagne sold in the United States is said to be wine charged artificially with carbonic acid gas. American champagne fermented in bottles is declared to excel the imported article in every particular. Pea-nut shells and cocoanut shells are used for the adulteration of cinnamon, ground pepper, mustard, ginger, and other condiments. Cream of tartar was found to be extensively adulterated with alum—in fact, so much was this the case that among all the samples of cream of tartar examined only one was pure. Finally, the report states that large amounts of goods of all kinds are imported and sold in this country which are adulterated and the sale of which would be prohibited in the countries where they are manufactured. This is especially in evidence as regards coffee and beer, and the report proposes that a standard should be fixed for such imported articles as a means of protection.

April 12th.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen passed the Second Examination of the Board in the subjects indicated:—

Wednesday, April 4th:

Anatomy and Physiology.—Sidney Bazalgette, John James Armitage, Frederick Robert Elleston Wright, and Charles Hugh Latham, St. Thomas's Hospital; Raymond Reynolds Garrett and William Kenneth Dudoit Breton, St. Mary's Hospital; Kenneth Black, Charles Henry Dawe, Percy Alfred Peall, Bernard Harry Wedd, and Edward James Gaffney, Guy's Hospital; Charles Derwent Pye-Smith, University College, Sheffield, and Guy's Hospital; William Leigh Maule Day, Oxford University and Guy's Hospital; Frank Rowe Edmonds and Herbert Bartlett Simpson, University College, London; William Brown Clark, King's College, London; Cecil Lionel Lakin and Sidney Arthur Boyd, Charing Cross Hospital; William Forsyth Jones, Charing Cross Hospital and Mr. Cooke's School of Anatomy and Physiology; Henry Howarth Bashford and Millais Culpin, London Hospital; David Assur Henry Moses, St. Bartholomew's Hospital; Thomas Rose and John Warwick Hele, Middlesex Hospital; Edward William Dewey, St. George's Hospital; and John Sidney Pearson, Cambridge University and St. George's Hospital.

Anatomy only.—Frederick Field Lawrence How, University College, London.

10 gentlemen were referred in both subjects and one in physiology only.

Thursday, April 5th:

Anatomy and Physiology.—George Ernest Aubrey, Robert John Percy Thomas, Frederick Michael Bishop, and Arthur Frost Forster, St. Bartholomew's Hospital; Desborough Brodie and Hamilton Stanley Faber, St. George's Hospital; Amelius Cyril Birt, Stephen Hugh Pitcairn, and John Courtney Folliott Dudley Vaughan, St. Thomas's Hospital; Herbert Myer Goldstein, Harold Whishaw Wallis, Reginald Larkin, and George Struan Robertson, Guy's Hospital; Owen Mortimer Bartlett, St. Mary's Hospital; Robert Leslie Ridge and Frederic Wood Jones, London Hospital; Ernest Gregor Kellgrew, Cambridge University; William Bradshaw Davy, Middlesex Hospital; and Wilfrid Garton, Westminster Hospital.

11 gentlemen were referred in both subjects and one in physiology only.

UNIVERSITY OF DURHAM.—At examinations for the degree of Bachelor in Medicine, held at the College of Medicine, Newcastle-upon-Tyne, in April, the following candidates satisfied the examiners:—

FIRST EXAMINATION.

Old Regulations.

1. *Chemistry with Chemical Physics.*—George Fowler, L.R.C.P. & S.Ed., D.P.H. Lond., Madras University; and Alexander Minter Watts, M.R.C.S. Eng., L.R.C.P. Lond., University College, London.
2. *Elementary Anatomy.*—Ernest James Miller, Middlesex Hospital and Cooke's School of Anatomy.

New Regulations.

1. *Elementary Anatomy and Biology, Chemistry, and Physics.*—*First-class Honours:* William Gibbons, College of Medicine, Newcastle-upon-Tyne. *Second-class Honours:* Fred. Stoker, College of Medicine, Newcastle-upon-Tyne. *Pass List:* James Alexander Bennett, Walter Haward, Thomas Charles Hunter, Bernard Warner Lacey, and Constance Charlotte Robertson, College of Medicine, Newcastle-upon-Tyne; Janet Arthur Vaughan, London School of Medicine for Women; and Hermann Wolfe, College of Medicine, Newcastle-upon-Tyne.
2. *Chemistry and Physics.*—Ambrose Harold Bateman, St. Bartholomew's Hospital; Cyril Prichard Burd, M.R.C.S., L.R.C.P., Mason College, Birmingham, and St. Bartholomew's Hospital; Charles Fisher, M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; William Watkiss Jones, Mason College, Birmingham; Sidney Nix, St. Mary's Hospital; Percy Montgomery Rivaz, St. Bartholomew's Hospital; and William Seymour and William Frank Wilson, College of Medicine, Newcastle-upon-Tyne.
3. *Elementary Anatomy and Biology.*—Frederick Durnford Atkins, St. Thomas's Hospital; Llewelyn Alfred Henry Bulkeley, College of Medicine, Newcastle-upon-Tyne; Fred Thomas Holloway Davies, Mason College, Birmingham; Harold Edgar Featherstone, Albert James Gilbertson, and John James Grant, College of Medicine, Newcastle-upon-Tyne; Alfred Herbert Heslop, Oxford University and College of Medicine, Newcastle-upon-Tyne; Lizzie Evelyn Kendal and Frederick William Kemp, College of Medicine, Newcastle-upon-Tyne; Raghunath Vithal Khedkar, Grant College, Bombay; George Errington Lloyd and Colin Francis Frederick McDowall, College of Medicine, Newcastle-upon-Tyne; Bertha Mary Miles, London School of Medicine for Women; William John Phillips, B.Sc., Mary Raw, and Charles Duncan Relton, College of Medicine, Newcastle-upon-Tyne; Olga Schiele, London School of Medicine for Women; Francis Rupert Snell, St. Thomas's Hospital; and Frederick James Strachan, William Lister Tindle, and Tys Visser, College of Medicine, Newcastle-upon-Tyne.
4. *Elementary Anatomy, Chemistry, and Physics.*—Alfred Reid, Guy's Hospital.

SECOND EXAMINATION.

Anatomy, Physiology, and Materia Medica.—*First-class Honours:* Charles Harold Crass, College of Medicine, Newcastle-upon-Tyne. *Second-class Honours:* Bryden Glendining, Guy's Hospital; Charles William Menelaus Hope, College of Medicine, Newcastle-upon-Tyne; Charles Fisher, M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; Basil Edward Spurgin, College of Medicine, Newcastle-upon-Tyne; and Thomas Eben Pemberton, Mason College, Birmingham. *Pass List:* Thomas Engelhart Amyot, College of Medicine, Newcastle upon-Tyne; Samuel Thomas Cochrane, Queen's College, Belfast; John Cooper, B.Sc., F.C.S., College of Medicine, Newcastle-upon-Tyne; Clement Harlow Cox, Mason College, Birmingham; Martha Georgina Isabella Cadell, L.R.C.P. and S.Ed., L.F.P.S. Glasg., Edinburgh University; John Frederic Dover, College of Medicine, Newcastle-upon-Tyne; Wilfred Ralph Leycester Drawbridge, St. Bartholomew's Hospital; Evelyn John Evatt, Royal College of Surgeons, Ireland; George Brittan Gill and John Herbert McDowall, College of Medicine, Newcastle-upon-Tyne; Flora Murray, London School of Medicine for Women; Francis O'Neill and Robert Reid Pirrie, College of Medicine, Newcastle-upon-Tyne; Percy Montgomery Rivaz, St. Bartholomew's Hospital; Alfred Reid, Guy's Hospital; Thomas Rowell, Briton Smallman Robson, and Andrew Smith, College of Medicine, Newcastle-upon-Tyne; Gavton Warwick Smith, Guy's Hospital; John Malcolm Shaw, College of Medicine, Newcastle-upon-Tyne; Charles Ravenscroft Stewart, St. George's Hospital; Harry Carlile Sturdy, M.R.C.S., L.R.C.P., and Otho Boyle Travers, Guy's Hospital; and Robert Younger, College of Medicine, Newcastle-upon-Tyne.

UNIVERSITY OF GLASGOW.—The following have passed the first professional examination for the degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.) in the subjects indicated (B., Botany; Z., Zoology; P., Physics; C., Chemistry):—

Scott Campbell Adam (Z., C.), Andrew Blair Aitken (Z., C.), Archibald Craig Amy (B., Z., C.), Andrew Woodroffe Anderson (Z., C.), Henry Graeme Anderson (Z.,* C.), John Bain (B.), Allan Robertson Barrowman (Z., C.), George Beattie (P.), Robert Daniels Bell, M.A. (Z., C.), Thomas Bennett, M.A. (B., P.), David Blackley (Z., P., C.*), Robert George Bradford (P.), Forrest Brechin (Z., C.), Thomas Brodie (Z., C.), Charles Brown (Z., C.*), John Brown (P.), Charles Burns (Z., C.), George Yuille Caldwell (Z. C.), Angus Campbell (B., C.), John Cairns Christie (B., P.), Alexander Erskine Clark (P.), Andrew Connal (P., C.), William Smith Craig (Z.), John Craig Crawford (B., P.), David Dickie (P.), Allan Campbell Douglas (Z., C.), Arthur Granville Hepburn Elder (B., P.), Hugh Harvey Fulton (Z., C.), William Harold Gillatt (B., Z.), David Livingstone Graham (Z., C.), Donald John Gollan Grant (Z., C.), George Munn Gray (Z., C.*), Louis Leisler Greig (Z., C.), Charles Francis Dyer Hammond (Z.), Alexander Robertson Forrest Hay (C.), Arthur Innes (Z., C.), James Rutherford Kerr (Z., C.), John Kerr (B., P.), George Notman Kirkwood (B., P.), Robert Wright Leckie (Z.), William Main (B., Z.), William Blair Morton Martin (Z., C.*), Andrew Meek (Z.,* C.), Gavin Denholme Muir (B., C.), Macdonald Munro (Z.), John Murdoch (Z., C.), Arthur Alexander Murison (Z.), Frank Anderson Murray (Z., C.), Thomas Symington Macaulay (Z., C.), Donald Carmichael M'Cormick (Z.), John Finlay Macdonald (Z., C.), Neil M'Dougall (Z.), James Boston M'Ewan (Z.), Tom Duncan M'Ewan (Z., C.), Duncan Macfadyen (Z., C.), John Macfarlane (Z., C.), Robert Macfarlane (Z., C.), James Denniston Macfie (Z., P., C.), Alexander Stuart Murray Macgregor (Z.,* C.), Robert Clark M'Guire (Z., C.), James M'Houl (Z., C.), Ronald Mackinnon (Z., P.), Norman Alexander Macleod (B., Z., C.), Roderick Macleod (B., Z.), Alexander Stewart M'Millan (B.), Andrew Brown M'Pherson (B., Z., P., C.), James Anthony Macvea (C.), George Clement Nielson (Z., C.), Thomas Orr (C.), Howard Henderson Patrick (Z., C.), John Pearson (Z. C.), Andrew Maclean Pollock (Z., C.), James Porter (Z.,* C.), William Murdoch Rae (Z. C.), Donald Ronald Reid (Z. C.), Daniel Stevenson Richmond (B. Z.), James Watson Richmond (B., Z.), Robert Thin Craig Robertson (Z.), Frank Donald Scott (C.) Edward Louis Sieger (B.), James Charles Donaldson Simpson (Z.), John Macgregor Smith (P.), Morrison Wood Smith (Z.), Norman Burgess Stewart (C.), William Stewart (B., P.), William Craig Stewart (B., Z., P.), Murray Ross Taylor (Z., C.), William Robb Taylor (Z., P.), James White Thomson (Z., C.*), Joseph Johnston Townley (B., Z.), Alexander M'Millan Watson (B.), Thomas Macknight Watt (Z.), Archibald Crombie West (Z., C.), Griffith John Williams (B., Z., P., C.), George Wilson B., C.), Robert M'Nair Wilson (P., C.), and John Young (Glasgow) (P., C.).*

Women.—Annie Agnes Baird (C.), Annie M'Caig Black (B., Z.), Roberta Campbell (P., C.), Mary Theresa Gallagher (P., C.), Alice Wesley Maclean (B.), Charlotte Reid Park (P., C.), Harriett Rowland Louise Reid (B., Z.), Jane Reid Shaw (P., C.), and Annie May Yates (P., C.).

The following have passed the Second Professional

Examination for the degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.) in the subjects indicated. (A., Anatomy; P., Physiology; M., Materia Medica and Therapeutics):—

Adolph Anderson (M.), William Kirkpatrick Anderson (P.), William Armitage (A., M.), Alexander Grey Banks (A., P.), Robert Bryson (A., M.), Ernest Cecil Burnett (P.), John Miller Hopkins Caldwell (M.), John James Young Campbell (A.), Daniel Lyall Carmichael (A., P., M.), Robert Peploe Cartwright (M.), Walter Bartlett Chapman (P.), Hugh William Crawford (A., P.), David William Davidson (M.), Andrew Robertson Dow (P., M.), William Elder (A., M.), James Ferguson (P., M.), John Ferguson, M.A. (A., M.*), Thomas Forsyth (M.), William Gemmill (A., P.), William White George (P., M.*), John Ritchie Gilmour (M.), John Miller Gordon (A., P.), John Guthrie (A., P.,* M.), John Andrew Hagerty (A., P.), Ronald Dingwall Hodge (A., M.*), John Brown Dalzell Hunter (A., P.), Neil M'Coll Hutchison (A.), Ernest David Jackson (A., P.), George Rutherford Jeffrey (A., P.), William Fletcher Kay (A., P.) James Thompson Kelly (M.), John Kennedy (A.), Andrew Miller Kerr (A., P.), William Henry Kirk (P.), Stanley Everard Lewis (P., M.), Alexander Linn (P.), Thomas Lovett (A., P.), Joseph Paterson Lusk (M.), Richard Makins (A., P., M.), Robert Menzies (A.), James Grant Millar (A.), William Alexander Milne (A.,* P., M.), Alexander John Mitchell (A.), Allan Dixon Mitchell (P.), John Morison (M.*), John Muir (P.), Daniel Douglas M'Dougall, M.A. (A., P.), Alexander Armstrong MacFarlane (A., P.), Alexander Macintyre (A., P.), David Duncan Fraser Macintyre (A.), Thomas M'Laren (A.), Hugh Archibald M'Lean (A., P.), John Maclean (A., P., M.), Dugald Henry Macphail (A., P., M.), James Stuart Nicolson (M.), John Dunn Nisbet (P., M.), Robert Orr (P.), Thomas Rankine (A., P.), John Mark Reid (A., P.), John Walker Renton (A.), Thomas Richmond (A., P.), David Riddell (A., P.), William Robertson Blackwood (A.), Norman Cumming Rogers (P.), Edward Henry Ross (A., P.), James Smith (A.), John Williamson Smith (A., P.), Robert Cassels Smith (A., P.), David Spence (P.), John Restell Thomas (P.), John Unsworth (A.), Robert Wallace (A., M.), Thomas Irby Wallace (A.), Hugh Fleming Warwick (P.), Alexander Brown Watt (A., P.), Peter Millar Waugh (P.), Archibald Simpson Wilson (M.), and James Wilson (A.).

Women.—Helen Stephen Baird, B.A. (M.), Gertrude Dorman Bostock (A., P.,* M.*), Margaret Edith Bryson (P., M.), Ethel MacLeod Lochhead (A., P.), Jessie Seath MacEwen (A., P., M.*), Jane Hamilton M'Ilroy, M.A. (P.), Martha Hunter Scott (A., P.), and Edith Christine Wallace (A.).

The following have passed the third professional examination for the degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.) in the subjects indicated (P., Pathology; M., Medical Jurisprudence and Public Health):—

John Anderson (P.), Thomas Anderson (P., M.), William Archibald (P., M.), Robert Wellwood Auld (P.), John Stoddart Barr (P.), William Macalister Brown (P.,* M.*), Patrick Thomas Cairns (P., M.), Samuel James Cameron (P.*), Robert David Campbell (P.,* M.), Edward Seymour Chapman (P., M.), George Herbert Clark (P., M.), James Bertie Wylie Cook (P., M.), John Shedden Dale (P.), David Beattie Davidson (P.), Gregor Hugh Grant Davie (P.), Alexander Doig (P., M.), Reginald Nairn Dunlop (P., M.*), George Balfour Eadie (P., M.), George Ferguson (P.), Duncan Johnston Fletcher (M.), Archibald Gow (P., M.), Andrew Parlane Granger (P., M.), John Gregor (P., M.), George Pillans Harlan (P., M.), Francis Joseph Henry (P., M.*), James Macpherson Henry (M.), Charles Milburn Hope (M.), Douglas William Hunter (P.,* M.), Matthew Hunter (P.), William Johnstone Isbister (P., M.), Pierce Jones (P., M.), Daniel Ross Kilpatrick (P., M.), David Kyle, M.A (P.), John Lambie (P., M.), John Francis Lambie (M.), Frank Joseph Lochrane (P.), Edward Magoveny (P., M.), William Alexander Masson (P., M.), Robert Joseph Mills (P., M.), William Alexander Milne (P., M.), Alexander Robert Moir (M.), Alan Howie Muir (P. M.), James William M'Dougall (M.), Walter James M'Feat (M.), William Ferguson M'Glashan (M.), Alexander Maclean (P.), George Williamson M'Millan (P., M.), James M'Pherson, M.A. (P., M.); Robert Paterson (P., M.), John Paton (P., M.), James King Patrick (P., M.), Robert Ramsey (P.*), Andrew Reid (P., M.), Peter Mackenzie Reid (M.), William Robertson, Kilmarnock (P.); Thomas Ritchie Rodger (P.,* M.), William George Rodger (P.,* M.), Andrew Taylor Ross (P., M.), Charles James Ross, B.A. (P., M.); Donald Steel (P., M.*), John Stewart, M.A. (P., M.); James Nathanael Todd (P., M.), Joseph Goodwin Tomkinson (P.), John Wright Turner (P.), Robert Warden Valentine (P.,* M.), Albert Ernest Wainwright (M.), James Walker (P., M.*), George Smith Wallace (P., M.), Morgan Watkin Williams (P., M.), William Webster Watt Wilson (P., M.), and William Robertson Wylie (P., M.).

Women.—Janet Bisland Higgins (P., M.), Catherine Spence Howden (P.,M.), Karen Margrethe Myhre (M.), Mary Janet Pirret (P., M.), Elizabeth Ness MacBean Ross (P., M.), Agnes Brymner Sinclair (P., M.), Elizabeth Helen Smith (P., M.), and Henrietta Fraser Young (P., M.*).

* Passed with distinction.

FOREIGN UNIVERSITY INTELLIGENCE.—*Athens:* Dr. Protopoulos has been appointed Professor of Dermatology and Syphilography.—*Berlin:* Dr. J. von Michel of Würzburg has been appointed to the chair of Ophthalmology in succession to Dr. Schweigger, resigned.—*Bologna:* Dr. Tommaso Secchi has been recognised as *privat-docent* of Dermatology and Syphilography and Dr. Alessandro Bruschettini and Dr. Floriano Brazzola as *privat-docenten* of Hygiene.—*Copenhagen:* Dr. H. C. J. Gram, Professor of Pharmacology, has been appointed to the chair of Medicine.—*Geneva:* Dr. Oltramare has been promoted to be Ordinary Professor of Clinical Dermatology.—*Giessen:* Dr. F. Best has been recognised as *privat-docent* of Ophthalmology.—*Graz:* Dr. Friedrich Dimmer of Innsbruck has been appointed Professor of Ophthalmology in succession to Dr. Borysiekiewicz, deceased.—*Greifswald:* Dr. L. Krehl of Marburg has been appointed to the chair of Clinical Medicine in succession to Dr. Mosler, resigned. Dr. Paul Strübing has been promoted to be Ordinary Professor of Internal Medicine and Director of the Medical Polyclinic.—*Kieff:* Dr. Nêiêloff has been recognised as *privat-docent* of Midwifery and Gynæcology.—*Lausanne:* Dr. A. Treyer of Freiburg (Switzerland) has been appointed Professor of Internal Medicine.—*Lyons:* Dr. J. A. Courmont has been promoted to the chair of Hygiene.—*Marburg:* Dr. Wendel has been recognised as *privat-docent* of Surgery.—*Moscow:* Dr. Polievtkoff has been recognised as *privat-docent* of Children's Diseases, Dr. Berestneff as *privat-docent* of Bacteriology, and Dr. V. Poliakoff as *privat-docent* of Diseases of the Respiratory Organs.—*Naples:* Dr. Luca Chinni has been recognised as *privat-docent* of Anatomy, Dr. Bartolomeo Baculo as *privat-docent* of Pædiatry, and Dr. Felice Piccinino as *privat-docent* of Electro-Therapeutics.—*Prague* (*German University*): Dr. Ewald Hering has been promoted to an extraordinary professorship of General and Experimental Pathology. (*Bohemian University*): Dr. Rudolf Kimla, *privat-docent* of Pathological Anatomy, has been granted the rank and title of Extraordinary Professor.—*Rome:* Dr. Gaetano Parlavecchio has been recognised as *privat-docent* of Surgical Pathology.—*Sienna:* Dr. Vittorio Martini has been recognised as *privat-docent* of Surgical Pathology and Dr. Luigi Simonetta as *privat-docent* of Experimental Hygiene.—*St. Petersburg* (*Military Medical Academy*): Dr. S. Yakovleff and Dr. Abramicheff have been recognised as *privat-docenten* of Dermatology and Syphilography and Dr. V. Hubert as *privat-docent* of Pædiatry.—*Turin:* Dr. Riccardo Galeazzi and Dr. Bartolo Nigrisoli have been recognised as *privat-docenten* of Surgery and Operative Medicine, Dr. Alberto Biagini and Dr. Enrico Mensi as *privat-docenten* of Children's Diseases, Dr. Francesco Abba and Dr. Carlo Mazza as *privat-docenten* of Hygiene, and Dr. Vitage Tirelli as *privat-docent* of Forensic Medicine.—*Utrecht:* Dr. Kohlbrugge has been recognised as *privat-docent* of Tropical Diseases.—*Vienna:* Dr. Julius Neumann has been recognised as *privat-docent* of Midwifery and Gynæcology.—*Warsaw:* Dr. P. V. Nikolski of Kieff has been appointed Extraordinary Professor of Dermatology and Syphilography.—*Zürich:* Dr. Paul Ernst of Heidelberg has been unanimously elected to the chair of General Pathology and Pathological Anatomy vacant by the migration of Professor Ribbert to Marburg.

POISONING BY ARUM MACULATUM.—An inquest was held at Combe St. Nicholas, near Chard, on April 7th upon the body of a girl, aged three years, who had died suddenly after having eaten some plants in the garden. A post-mortem examination showed that death was due to poisoning with the leaves of the arum maculatum and a verdict of death from accidental poisoning was returned.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—A meeting of the College will be held on Tuesday, May 1st, to elect the following examiners: two examiners in anatomy, two in surgery, two in physiology and histology, one in biology, two in ophthalmology, one in pathology and bacteriology, one in pathology, one in midwifery and gynæcology, one in sanitary law and vital statistics, one in engineering and architecture, two in chemistry and physics, two in dental surgery and pathology, two in mechanical dentistry, one in languages, and one in mathematics, physics, dictation, and English essay.

A MEDICAL PLAINTIFF IN THE COUNTY COURT.—At the Cardiff County Court Dr. C. McCall recently sued a patient for £5 6*s.* for medical attendance upon his wife and child, upon the latter of whom he had performed tracheotomy for diphtheria. The solicitor for the defence was cross-examining Dr. McCall at some length as to the manner in which the operation was performed when His Honour Judge Owen stopped him, saying that as there was no counter claim for malpractice it was unfair and improper to make charges against a medical man. Later the same solicitor commenced to address the court again, but the judge said, "This is a case in which a medical man seeks to recover his fees for a difficult and dangerous operation. There is not the slightest reason for the unpleasant, improper, and mean insinuations that have been made in the case. A medical

man's reputation is more to him than to any solicitor. These base, improper, and dishonest insinuations should not be made. I speak warmly about it because I feel warmly and I do not like these cowardly attacks." Judgment was eventually given for the plaintiff with costs.

PLYMSTOCK WATERWORKS. — The Plymstock, Devon, Waterworks, which have been erected at a cost of £8300, were formally opened on April 7th.

AT a meeting of the West of England and South Wales Branch of the Incorporated Society of Medical Officers of Health, held at Newport on April 12th, under the presidency of Dr. W. H. Symons, the question of the gratuitous distribution of antitoxin to medical practitioners by sanitary authorities was discussed and a resolution in favour of such a measure was unanimously passed.

ST. THOMAS'S HOSPITAL MEDICAL SCHOOL.—At the recent examinations held at the end of the Winter Session the following medals and prizes were awarded. The Mead Medal to Mr. R. B. Kinloch, the Cheselden Medal to Mr. T. H. Edwards, and a prize of £10 to each of the following: Mr. F. C. Eve (Medicine), Mr. W. H. O. Woods (Surgery), Mr. T. S. Taylor (Midwifery and Diseases of Women), Mr. J. E. H. Sawyer (Pathology), Mr. J. L. Lock (Pharmacology), Mr. R. B. Kinloch (Forensic Medicine and Insanity), Mr. W. B. Fry (Public Health). The Peacock Scholarship (£38 10*s.*) and a College Prize of £20 were divided between Mr. H. S. Bennett and Mr. F. W. W. Smith (second year) and the William Tite Scholarship (£27 10*s.*) was awarded to Mr. K. Takaki (first year).

ROYAL PORTSMOUTH HOSPITAL.—An important and representative meeting of the committee of the Royal Portsmouth Hospital was held on April 6th, under the presidency of Sir William King, for the election of three honorary assistant physicians and three honorary assistant surgeons. These appointments are newly created ones, it having been found necessary to increase the existing staff. There were 19 applicants for the vacancies and the following were the results of the voting, which was by ballot, 47 members of committee being present. Elected as honorary assistant physicians: Dr. John Phillips, 39; Dr. C. C. Claremont, 29; and Dr. W. P. McEldowney, 29. Elected as honorary assistant surgeons: Mr. C. P. Childe, 41; and Mr. T. A. M. Forde, 24. The third on the list, Mr. A. B. Wright, secured only 22 votes, and as this was not a majority of those present (47) his name was proposed and seconded and he was declared duly elected.

BOOKS, ETC., RECEIVED.

APPLETON, D., AND CO., New York.
Outlines of the Comparative Physiology and Morphology of Animals. By Joseph Le Conte. 1900. Price 7*s.* 6*d.* net.

AT THE UNIVERSITY PRESS OF LIVERPOOL, AND PHILIP, G., AND SON, Fleet-street, London.
Liverpool School of Tropical Medicine. Memoir II. Report of the Malaria Expedition to West Africa, August, 1899. By R. Ross, D.P.H., M.R.C.S., H. E. Annett, M.D., D.P.H., and E. E. Austen. With Supplementary Reports by Major G. M. Giles, M.B., F.R.C.S., and R. Fielding-Ould, M.A., M.B. Illustrated with Maps. Price 10*s.* 6*d.* net.

BAILLIÈRE, J. B., ET FILS, Paris.
Le Rhumatisme Articulaire Aigu. Par H. Triboulet et A. Coyon. 1900.

BAILLIÈRE, TINDALL, AND COX, King William-street, Strand, London.
Mock-Nurses of the Latest Fashion, A.D. 1900. By F. J. Gant, F.R.C.S. 1900. Price 3*s.* net.
Practical Manual of Diseases of Women and Uterine Therapeutics. By H. Macnaughton-Jones, M.D., M.Ch. Eighth edition. Illustrated. 1900. Price 18*s.* net.

BALDWIN AND CO., Georgetown, Demerara.
The British Guiana Medical Annual. Edited by J. F. S. Fowler, M.B. 1899. Eleventh year of issue.

CARRÉ, GEORGES, ET C. NAUD, Paris.
L'Irritabilité dans la Série Animale. Par D. Courtade. 1900.

CHURCHILL, J. AND A., Great Marlborough-street, London.
The Diagnosis and Treatment of Syphilis. By Tom Robinson, M.D. Second edition. 1900. Price 3*s.* 6*d.*
Ulcer of the Stomach and Duodenum and its Consequences. By S. Fenwick, M.D., F.R.C.P., and W. S. Fenwick, M.D. Lond., M.R.C.P. 1900. Price 10*s.* 6*d.*
The Student's Handbook of the Surgery of the Alimentary Canal. By A. Ernest Maylard, M.B., B.S. Lond. 1900. Price 8*s.* 6*d.*

CONTY'S GUIDES OFFICE, Paris.
Conty's Practical Pocket Guide to Paris. English edition. 2*s.* 6*d.* net.
De Paris à Marseille, Lyon, Nimes, &c. Troisième édition. 1900.

DOUGLAS, D., Castle-street, Edinburgh.
A Surgical Operating Table for the Horse. By J. A. W. Dollar, M.R.C.V.S. 1900. Price 2*s.* 6*d.* net.

KIMPTON, H., High Holborn, London.
A Practical Treatise on Diseases of the Skin. By JAS. N. HYDE, A.M., M.D., and Frank H. Montgomery, M.D. Fifth edition. Illustrated. 1900. Price 25*s.* net.

LIBRAIRIE MALOINE, Paris.
Annuaire des Eaux Minérales: Stations Climatiques et Sanatoria de la France et de l'Etranger. Par G. Morice. 1900.

LONG, JOHN, Chandos-street, Strand, London.
The Experiment of Doctor Nevill: A Novel. By Emeric Hulme-Beaman. 1900. Price 6*s.*

MACMILLAN AND CO., London.
Lessons in Elementary Physiology. By T. H. Huxley, LL.D., F.R.S. Enlarged edition. 1900. Price 4*s.* 6*d.*
Home Nursing: Modern Scientific Methods for the Care of the Sick. By Eveleen Harrison. 1900. Price 4*s.* 6*d.*
Micro-organisms and Fermentation. By A. Jorgensen. Translated by A. K. Miller, Ph.D., F.I.C., and A. E. Lennholm. Third edition. Illustrated. 1900. Price 10*s.*

NUTT, DAVID, Long Acre, London.
The Frog: an Introduction to Anatomy, Histology, and Embryology. By the late A. M. Marshall, M.D., D.Sc., M.A., edited by G. H. Fowler, B.A., Ph.D. Seventh edition. Illustrated. 1900. Price 4*s.*

SANGIOVANNI, F., Napoli.
La Chirurgia del Pericardio e del Cuore. Par Prof. Errico Giordano. 1900.

SCIENTIFIC PRESS, Southampton-street, Strand, London.
Gynæcological Nursing. By G. A. Hawkins-Ambler, F.R.C.S. 1900. Price 1*s.*

SKEFFINGTON AND SON, Piccadilly, London.
The Disenchantment of Nurse Dorothy: a Story of Hospital Life. By Florence Baxendale. 1900. Price 3*s.* 6*d.*

SMITH, ELDER, AND CO., Waterloo-place, London.
Dictionary of National Biography. Edited by Sidney Lee. Vol. lxii. Williamson—Warden. 1900. Price 15*s.*
Occasional Lectures on the Practice of Medicine. By W. B. Cheadle, M.D., F.R.C.P. Illustrated. 1900. Price 7*s.* 6*d.*
Paralytic Deformities on the Lower Extremities. The Principles of their Surgical Treatment. By E. Noble Smith, F.R.C.S. Edin., L.R.C.P. Lond. Illustrated. 1900. Price 5*s.*

SOCIÉTÉ D'ÉDITIONS SCIENTIFIQUES, Paris.
La Scrofule et les Infections Adénoïdiennes. Par Dr. P. Gallois. 1900.

SPOTTISWOODE AND CO., Gracechurch-street, London.
The Medical Register. 1900.

THE AMERICAN PEDIATRIC SOCIETY.
Transactions of the American Pediatric Society. Eleventh Session, June, 1899. With the Constitution. Edited by F. M. Crandall, M.D. Vol. xi. 1899. Reprint.

THE F. A. DAVIS COMPANY, Philadelphia.
Diseases of the Nose and Throat. By J. Price-Brown, M.B., L.R.C.P. Eng. Illustrated. 1900.
Injuries to the Eye in their Medico-Legal Aspect. By S. Baudry, M.D. Translated from the original by A. J. Ostheimer, jun., M.B., and edited by C. A. Oliver, A.M., M.D. 1900.
The Anatomy of the Brain. By R. H. Whitehead, M.D. Illustrated. 1900.

THE MEDICAL PUBLISHING COMPANY, 22½, Bartholomew-close, London.
Heart Disease in Childhood and Youth. By C. W. Chapman, M.D. Durh., M.R.C.P. Lond. With an Introduction by Sir S. Wilks, Bart., M.D. 1900.

VIGOT FRÈRES, Paris.
Traitement des Fièvres Pernicieuses. Par Dr. Basile M. Mousséos. 1900.
L'Hypertrophie Senile de la Prostate. Par Dr. A. Guépin. 1900.

WARWICK BROS. AND RUTTER, Toronto.
Report Births, Marriages, and Deaths, Ontario, 1898.

Magazines, &c., for April: Strand Magazine, Boy's Own Paper, Girl's Own Paper, Leisure Hour, Sunday at Home, Ludgate Magazine, Westminster Review, Contemporary Review, Friendly Greetings, Myra's Journal, Pall Mall Magazine, Windsor Magazine, English Illustrated Magazine, Knowledge, Humanitarian, Wide World Magazine, New Century Review, Sunday Strand.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ANDERSON, N. W., M.B., C.M. Aberd., has been appointed Certifying Surgeon under the Factory Acts for the Civil Parish of Strathmiglo, in the County of Fife.

ATKINSON, J. A., L.R.C.P. Lond., M.R.C.S., has been appointed Certifying Surgeon under the Factory Acts for the Urban District of Knaresborough and the Civil Parishes of Scriven, Fermsby, Knaresborough Outer, Flaxby, Goldsborough, and Plumpton in Knaresborough Rural District.

BEAMAN, E. H., L.R.C.P., L.R.C.S. Irel., has been re-appointed Medical Officer of Health for the Misterton Rural Sanitary District.

BRAND, G. H., L.R.C.P., L.M. Irel., L.S.A. Lond., has been appointed Honorary Medical Officer to the Northampton and County Association for the Blind.

DURRANT, T. A., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer of Health, Market Harborough, by the Urban District Council.

GORNALL, J. H., M.R.C.S., has been re-appointed Medical Officer of Health for the Borough of Warrington.

GUNN, NORMAN, M.B., C.M. Edin., has been appointed Certifying Surgeon under the Factory Acts for the Civil Parishes of Botriphine and Mortlach in the County of Banff.

HARRIS, J. T. J., L.R.C.P., L.R.C.S. Edin., has been appointed Certifying Surgeon under the Factory Acts for the Urban District of Linslade, Wing Rural District, except the Civil Parish of Stoke Hammond and the Civil Parish of Stewkley in Winslow Rural District.

HAYES, A. HERBERT, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to the Casualty Department, East London Hospital for Children and Dispensary for Women, Shadwell, E., vice C. Frank Steele, resigned.

HEARDER, T. B., M.B., C.M. Edin., has been appointed Certifying Surgeon under the Factory Acts for the Urban District of Ilkley and the Townships of Nesfield-with Langbar Middleton, Denton, Askwith, Great Timble, Little Timble, Blubberhouses, and Fewston,

HINNELL, J. S.; M.D. Camb., M.R.C.S., has been re-appointed Medical Officer for the Sixth Sanitary District of the Thingoe Union.

HOWELLS, WM., M.B., C.M. Glasg., has been appointed Medical Officer for the Workhouse, Brecon, vice W. M. Parham.

HUTCHINSON, W., M.R.C.S., has been re-appointed Medical Officer for the Urban Sanitary District of Newmarket.

KILNER, C. S., M.B., C.M. Edin., D.P.H. Camb., has been re-appointed Medical Officer of Health by the Thingoe Rural District Council, and Medical Officer for the Second and Seventh Sanitary Districts of the Thingoe Union.

MARTIN, JOHN MIDDLETON, B.A., M.B., B.C., D.P.H. Cantab., L.S.A., has been appointed Medical Officer of Health for the Stroud (Gloucestershire) Rural District vice Thomas Partridge.

NICHOLLS, L., M.R.C.S., has been re-appointed Medical Officer to the Eighth Sanitary District of the Thingoe Union.

PEARSON, SYDNEY VERE, B.A., B.C. Cantab., has been appointed House Surgeon to the East London Hospital for Children and Dispensary for Women, Shadwell, E., vice A. H. Hayes.

PHILIP, W. M., M.B., C.M. Aberd., D.P.H., has been appointed Medical Officer by the Aberdeen City Parish Council.

PHILLIPS, JAMES, M.R.C.S., L.R.C.P. Lond., has been appointed Senior House Surgeon to Bradford Royal Infirmary.

SHARP, HUGH CULLIFORD, B.A., M.B., B.C. Cantab., has been appointed Medical Officer of Health for Truro vice Edward Sharp, resigned.

SMITH, C. CHANNOCK, M.R.C.S., L.R.C.P. Lond., has been appointed Junior House Surgeon to the York County Hospital.

SPOWART, W. R., M.D. Dub., L.R.C.P., L.R.C.S. Irel., has been re-appointed Medical Officer for the First Sanitary District of the Frehoe Union.

WILKIN, R. H., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer for the Fifth Sanitary District of the Thingoe Union.

WILLIAMS, L. H., M.R.C.S., has been appointed Certifying Surgeon under the Factory Acts for the Civil Parishes of Thornbury, Oldbury-upon-Severn, Littleton-upon-Severn, Rockhampton, Falfield, Tortworth, Charfield, Cromhall Abbots, and Cromhall Lygon, Rangeworthy, and Tytherington in Thornbury Rural District.

Vacancies.

For further Information regarding each vacancy reference should be made to the advertisement (see Index).

BATH ROYAL UNITED HOSPITAL.—Resident Medical Officer for three years. Salary £100 per annum, with board, lodging, and washing.

BIRKENHEAD AND WIRRAL CHILDREN'S HOSPITAL, Woodchurch-road, Birkenhead.—House Surgeon. Salary £75, with board, residence, and laundry. Apply to the Hon. Secretary, 20, Chapel-street, Liverpool.

BIRMINGHAM AND MIDLAND FREE HOSPITAL FOR SICK CHILDREN, Birmingham.—Resident Medical Officer and Resident Surgical Officer. Salary of each £60, with board, washing, and attendance in the institution.

BOLTON INFIRMARY AND DISPENSARY.—Junior House Surgeon for twelve months. Salary £80 per annum, with apartments, board, and attendance.

BRITISH OPHTHALMIC HOSPITAL AT JERUSALEM.—Surgeon as Clinical Assistant for eight months from June. Honorarium of £100, in addition to travelling expenses and maintenance.—Apply to Mr. B. Carter, 31, Harley-street, London.

CARDIFF INFIRMARY.—Assistant House Physician for six months. Salary at the rate of £50 per annum, with board, washing, and apartments.

CHORLTON UNION.—Senior and Junior Resident Medical Officers at the Workhouse Hospitals, Withington, Manchester, for twelve months. Salary of Senior Officer £130, and of Junior Officer £120, with furnished apartments and attendance (but not rations) for each in the workhouse.

CITY OF LIVERPOOL INFECTIOUS DISEASES HOSPITALS.—Assistant Resident Medical Officer to the above hospitals, unmarried. Salary £80 per annum (subject to a contribution to the Corporation Superannuation Fund), with board, washing, and lodging at the hospital. Applications to the Town Clerk, Town Clerk's Office, Liverpool.

CUMBERLAND AND WESTMORLAND ASYLUM, Garlands, Carlisle.—Junior Assistant Medical Officer, unmarried. Salary £100 a year, with board and residence.

DENBIGHSHIRE INFIRMARY, Denbigh.—House Surgeon for 12 months. Salary £80 to commence, with board, residence, and washing.

DEWSBURY AND DISTRICT GENERAL INFIRMARY.—House Surgeon. Salary commencing £80 per annum, with board and residence.

FARRINGDON GENERAL DISPENSARY, 17, Bartlett's-buildings, Holborn-circus, London.—Resident Medical Officer. Salary £120 per annum, with apartments, coals, gas, and attendance and permission to take resident pupils.

FISHERTON ASYLUM.—Assistant Medical Officer. Salary £150 per annum, with board, lodging, and washing. Apply to Dr. Finch, Salisbury.

GENERAL INFIRMARY at Leeds.—Two House Surgeons for twelve months and two House Physicians for six months. Board, lodging, and washing provided. Also Resident Medical Officer. Salary £100 per annum, with board, residence, and washing.

GLAMORGAN COUNTY ASYLUM, Bridgend.—Junior Assistant Medical Officer. Salary £150, with board, apartments, washing, and attendance.

GLASGOW SAMARITAN HOSPITAL FOR WOMEN.—House Surgeon (qualified lady).

GREAT YARMOUTH HOSPITAL.—House Surgeon. Salary £90 per annum, with board, lodging, and washing, and £10 extra for lectures to probationer nurses.

HALIFAX UNION WORKHOUSE, ST. LUKE'S HOSPITAL.—Assistant Medical Officer for this hospital and workhouse, unmarried. Salary £160 per annum, mid-day meal provided, subject to superannuation deduction. Apply to the Clerk to the Guardians, Union Office, Halifax.

HOSPITAL FOR WOMEN, Soho-square, London.—House Physician for six months. Salary £30 for that period.

ITALIAN HOSPITAL, Queen-square, London, W.C.—Honorary Assistant Physician, Out-patient Department.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.—House Surgeon, unmarried. Salary £140, increasing annually by £10 to £170, with rooms in the Infirmary and attendance. Option of board at £40 per annum.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary £85 per annum.

LIVERPOOL DISPENSARIES, Moorfields, Liverpool.—Assistant Surgeon, unmarried. Salary £100 per annum, with board and apartments.

LIVERPOOL STANLEY HOSPITAL.—Junior House Surgeon. Salary £70, with board, residence, and washing.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich-road, S.E.—Junior Resident Medical Officer for six months. Salary £40 per annum, with board, attendance, and washing.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Albany Memorial), Queen-square, Bloomsbury, London.—Two Assistant Physicians.

NORTHAMPTON UNION.—Medical Officer for a district. Salary £70 per annum, subject to superannuation deduction.

PARISH COUNCIL OF UIG, Island of Lewis.—Medical Officer and Public Vaccinator. Salary £200, exclusive of certain fees. Applications to the Chairman of the Parish Council.

PARISH OF ST. GILES, Camberwell, London.—Assistant Medical Officer for the Workhouse at Gordon-road, Peckham. Salary £120 per annum, with furnished apartments outside the workhouse, and an allowance of £1 1s. weekly in lieu of board and washing. Applications to the Clerk to the Guardians, Offices, 29, Peckham-road, S.E.

PARISH OF ST. MATTHEW, Bethnal-green, London.—Assistant Medical Officer for the New Infirmary, Cambridge-road, unmarried. Salary £150 per annum, with board, lodging, and washing. Apply to the Clerk to the Guardians, Offices, Bishop's-road, Victoria-park, N.E.

POPLAR HOSPITAL FOR ACCIDENTS, Poplar, London.—Assistant House Surgeon for six months. Salary at the rate of £65 per annum, with board and residence.

RIPON DISPENSARY AND COTTAGE HOSPITAL, Ripon.—Resident House Surgeon and Dispenser, unmarried. Salary £70 first year, to be advanced afterwards, with board and lodging.

ROYAL DEVON AND EXETER HOSPITAL, Exeter.—Assistant House Surgeon. Salary £40 per annum, with board, lodging, and washing. Also Junior Assistant House Surgeon for six months. Board, lodging, and washing provided.

ROYAL HALIFAX INFIRMARY.—Third House Surgeon, unmarried. Salary £50 per annum, with residence, board, and washing.

ROYAL LONDON OPHTHALMIC HOSPITAL (MOORFIELDS EYE HOSPITAL), City-road, E.C.—Three Assistant Surgeons.

ROYAL NATIONAL HOSPITAL FOR CONSUMPTION AT VENTNOR.—Clinical Assistant. Board, residence, and laundry provided. Apply to the Secretary, London Office, 34, Craven-street, Strand, W.C.

ROYAL SOUTHERN HOSPITAL, Liverpool.—Junior House Surgeon. Salary 60 guineas per annum.

ROYAL SURREY COUNTY HOSPITAL, Guildford.—Assistant House Surgeon. Salary £50 a year, with board, residence, and laundry.

ST. MARY'S CHILDREN'S HOSPITAL, Plaistow, E.—Assistant Resident Medical Officer, unmarried. Salary £80 per annum, with board, residence, laundry, &c.

ST. THOMAS'S HOSPITAL, Westminster-bridge.—Resident Assistant Physician.

SALOP INFIRMARY, Shrewsbury.—Assistant House Surgeon for six months. Salary at the rate of £40 per annum, with board and washing.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior House Surgeon for twelve months. Salary £80, with residence, board, and washing.

STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—House Surgeon for two years. Salary £120 per annum, with board, lodging, and washing. Also Assistant House Surgeon. Salary £80 per annum, with board, lodging, and washing.

STAMFORD HILL AND STOKE NEWINGTON DISPENSARY, Stoke Newington, N.—Assistant Resident Medical Officer. Salary £100 per annum, with board and residence.

STOCKPORT INFIRMARY.—House Surgeon. Salary £100 per annum, with residence, board, and washing. Also Assistant House and Visiting Surgeon. Salary £70 per annum, with board, washing, and residence.

SUNDERLAND INFIRMARY.—House Surgeon. Salary £80, rising £10 annually to £100, with board and residence.

SWANSEA GENERAL AND EYE HOSPITAL.—House Surgeon for twelve months. Salary £50 per annum, with board, apartments, washing, and attendance.

TAUNTON AND SOMERSET HOSPITAL, Taunton.—Assistant House Surgeon for six months. Salary at the rate of £30 per annum, with board, lodging, and laundry.

THE CHIEF INSPECTOR OF FACTORIES gives notice of vacancies for Certifying Surgeons under the Factory Acts at Lymm in the County of Chester, and at Bromley in the County of Kent.

UNIVERSITY COLLEGE, London.—Professorship of Medical Jurisprudence. Also Surgical Registrar. Also Resident Medical Officer.

UNIVERSITY OF GLASGOW.—Examiner for Degrees in Medicine. The appointment will be till Dec. 31st, 1903, at an annual salary of £50.

VICTORIA HOSPITAL FOR CHILDREN, Queen's-road, Chelsea, S.W.—Resident Medical Officer for six months. Honorarium £25, with board and lodging in the hospital.

WESTERN DISPENSARY, Rochester-row, Westminster.—Resident Medical Officer. Salary 100 guineas per annum, with residence, coals, gas, and attendance.

WREXHAM INFIRMARY.—House Surgeon. Salary £80 per annum, with residence, board, and washing.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House Physician for two years. Salary £100 a year, with board, lodging, and washing. Also Assistant House Physician for six months. Honorarium at the rate of £50 per annum given, and board, lodging, and washing provided.

Births, Marriages, and Deaths.

BIRTHS.

BENSON.—On April 6th, at Fulwood-road, Sheffield, the wife of H. Mitchell Benson, M.B., C.M. Edin., of a daughter.

FLEMING.—At 10, Chester-street, Edinburgh, on April 18th, the wife of Robert A. Fleming, M.D., F.R.C.P.E., of a daughter.

GALE.—On April 8th, at Manorgate House, Kingston-hill, Surrey, the wife of Arthur Gale, M.R.C.S., L.R.C.P., of a daughter.

KERR.—On April 17th, at London-road, Sheffield, the wife of W. S. Kerr, M.B., of a son.

LORRAIN SMITH,—On April 11th, at Westbourne, Windsor-avenue, Belfast, the wife of J. Lorrain Smith, M.D., of a daughter.

RANDALL.—On March 15th, at Ascension, the wife of Surgeon Philip N. Randall, M.B. Lond., Royal Navy, of a son.

SALISBURY-SHARPE.—On April 7th, at Cleveland-terrace, Hyde-park, W., the wife of W. Salisbury-Sharpe, M.R.C.S., L.R.C.P., of a daughter.

WAINWRIGHT.—On April 11th, at Sandgate-road, Folkestone, the wife of Lennox Wainwright, M.D., M.R.C.S., L.R.C.P., of a son.

MARRIAGES.

BRYANT—FRY.—On April 18th, at St. Luke's, West Norwood, by the Rev. B. S. Lloyd, vicar of St. Martin's, Lower Edmonton, assisted by the Rev. H. T. Hughes, vicar of St. Luke's, West Norwood, John Henry Bryant, M.D., B.S., M.R.C.P. Lond., assistant physician to Guy's Hospital, eldest son of the late William Mead Bryant of Ilminster, Somerset, to Stella Beatrice, sixth daughter of Richard Fry, Grecian Villa, Beulah-hill, Norwood.

BENHAM—ROUSSIN.—On April 14th, at Christ Church, New-road, Brighton, Charles Henry Benham, M.D., of Sackville-road, Hove, to Alexandra, eldest daughter of the late Louis Roussin of Ladbroke-grove, London.

DIMSEY—WHITTING.—On April 17th, at Holy Trinity Church, Weymouth, Staff-Surgeon Edgar R. Dimsey, D.S.O., Royal Naval Sick Quarters, Portland, to Edith Elizabeth, eldest daughter of the late Rev. W. H. Whitting, Rector of Stower Provost, Dorset.

SAVAGE—WILSON.—On April 10th, at Lewisham Congregational Church, William George Savage, B.Sc., M.D. Lond., second son of John H. Savage of Upper Norwood, to Mary Adèle May Wilson, second daughter of E. Dwight Wilson of Gracechurch-street, E.C.

WOODHEAD—WILLANS.—On April 11th, at Milton Congregational Church, Huddersfield, Herbert Miall Woodhead, M.B., of Sale, Cheshire, to Mabel Cecilia, eldest daughter of J. E. Willans, Rose Hill, Huddersfield.

DEATHS.

COCKCROFT.—On April 12th, at Manor Lodge, Chislehurst, Thomas Howarth Cockcroft, M.D., in his 75th year.

COURTENAY.—On April 8th, Joshua Pasley Courtenay, Retired Fleet Surgeon, R.N.

JENNINGS.—On April 8th, at the Abbey House, Malmesbury, Wilts, Joseph Cave Spicer Jennings, F.R.C.S., in the 83rd year of his age.

LAWTON.—On April 1st, at 18, Hamilton-square, Birkenhead, Ruth, dearly-beloved wife of William Lawton, M.B., aged 30 years.

OAKLEY.—On April 13th, at Frognal, Hampstead, Harry Callander Oakley, L.R.C.S., L.R.C.P. Edin., aged 46 years.

PRIESTLEY.—On April 11th, at Hertford-street, Mayfair, Sir William Overend Priestley, M.P., M.D., LL.D., of Westbrook Hall, Horsham, Sussex, aged 69 years.

UNDERWOOD.—On April 10th, at 24, Wellington-square, Hastings, John Underwood, M.D. Edin., 1841, M.R.C.S. Eng., 1842, L.S.A., 1841, in his 84th year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

"THE HOUSING OF THE POOR AND ITS AMELIORATION."

THE Howard Association was instituted under the patronage of the late Lord Brougham for the promotion of the best methods of Penal Treatment and Crime Prevention. It labours to indoctrinate the public mind with the importance of a reformatory and radically preventive treatment. In accordance with this definition it issues from time to time leaflets to the public and the press, and one that has just reached us bearing the above title is, in our opinion, particularly suggestive. In a characteristically practical speech which he recently made the Prince of Wales said: "There is no question at the present time of greater social importance than that of the housing of the working classes." For many years this has been widely felt and innumerable discussions upon the matter have taken place. A succession of Acts of Parliament have been passed in reference to it. Public bodies and councils have spent much money, at the expense of the already heavily burdened ratepayers, in endeavours to remedy the evils of overcrowded and insanitary dwellings; and yet the problem remains almost as difficult and as unsolved as ever. What, then, can be the reason of this large amount of failure, following so great a measure of effort? An answer is indicated, according to the Howard Association, by other words of the Prince of Wales used in the speech from which we have already quoted. His Royal Highness said: "I hope that the legislature may be able to deal with the case of *those who are responsible for insanitary property.*" Undoubtedly the Prince here pointed to a chief root of the great evil in question. Parliament has hitherto permitted the mischievous vested interests of slum property to be rewarded instead of punished. The Howard Association makes some sound reflections upon the erection of block-tenements. "The erection," says the leaflet, "by municipalities and councils of large block-tenements has at times defeated its own well-meant purpose by increasing, instead of diminishing, the evils of overcrowding. For after all the cost incurred for 'compensation' and construction the number of persons thus accommodated has been comparatively small, and has in general consisted of a class better off that those evicted. The latter have either had to swarm into other adjacent slums, thus causing still higher rents there than before, and with still worse sanitary conditions, or they have been driven into suburban slums, in some of which the 'jerry builder' still plies his destructive work with impunity." Moreover model dwellings are apt not to supply the wants of the very poor. The accommodation provided for the next rung above these in the social ladder may conceivably form an incentive to the lowest to strive to better themselves, but the extremely poor want more than an example; they want a roof above their heads. The subject is one of enormous medical importance, but medical views on the matter seldom include any expression of opinion save the somewhat obvious sentiment that if drunkenness, vagrancy, and culpable pauperism could be more effectually diminished by legislation one result would be a largely increased proportion of persons better able than at present to pay rent for improved and suitable dwellings. The Howard Association draws attention to the "rural exodus" which has been going on in England now slowly for many years. This exodus has brought myriads of country people into the cities and towns in consequence of agricultural depression and the contrast between the excessive dulness of rustic life and urban attractions. If by any conceivable means the Englishman could be persuaded to go back to the soil the problem of housing the poor would be half solved. It is not within our scope to discuss the political developments which have led to the present position of English agriculture, but the pitiful absurdity of it must strike all of us—and none more than medical men, so large a proportion of whom pass their lives in intimate acquaintance with the rural poor. Large tracts of land within a few miles of London have gone out of cultivation or are cultivated at a loss to their owners, while the food that this land might produce is imported—with small sanitary precautions—from the continent, and the men who might effectually assist in this production and live healthy lives in so doing rot in pestiferous slums.

"THE MEDICAL FOLK LORE OF SHAMROCK."

To the Editors of THE LANCET.

SIRS,—The annotation on the shamrock in THE LANCET of April 7th gives, I think, correctly the trifolium repens as the shamrock. The shamrock is a small trefoil and has on the under surface of the leaves an umber colour and in the summer it bears a white composite flower. I have never seen the wood sorrel worn as the shamrock, but I have seen it very frequently eaten by schoolboys when parched with thirst. The oxalis acetosella grows in woods and on the sunny banks of hedgerows, but hardly ever in meadows and pasture lands. On St. Patrick's day a great want of knowledge of the appearance and history of the plant was shown, and even St. Patrick was looked upon as a myth by thousands and the whole affair merely as an interesting

fable. In fact St. Patrick furnishes the subject of an authentic piece of history. He was born in Armoric Gaul, and from his home at the early age of 16 he was taken with other prisoners of war to Ireland by Niall of the Nine Hostages, the immediate ancestor of the O'Neills, who reigned from 379 to 406 A.D. In Ireland Patricius was sold as a slave and with others tended the cattle of his master on Slieve Mis Mountain in co. Antrim. Patrick after a captivity of seven years effected his escape and returned to his family in Gaul. He then began his studies and in the year 432 he was consecrated an Irish bishop and was appointed successor of Palladius on the Irish mission. In the same year Patrick landed in Ireland and on the following Easter Sunday he preached before Laoghaire the Monarch, son of Niall, and a large assembly of people at Tara. When St. Patrick was explaining the doctrine of the Trinity and seeing the difficulty his hearers had in understanding him he plucked from the ground a shamrock, and by demonstrating the three leaves united in one he effectually brought the great truth home to the minds of his hearers.—I am, Sirs, yours faithfully,

Lincoln, April 10th, 1900. WILLIAM O'NEILL, M.D. Aberd.

"THE DOCTOR'S DREAM."

To the Editors of THE LANCET.

SIRS,—The lines which you quote in THE LANCET of April 14th are by Clement Scott and appeared in *Punch apropos* of the suicide of Dr. Edwardes of Hounslow under most distressing circumstances many years ago. Clement Scott republished them in a little book entitled "Poems for Recitation," issued by Samuel French at 1s. I regard the poem as a classic, but it bears evidence of hasty workmanship.

I am, Sirs, yours faithfully,

Biggleswade, April 14th, 1900. J. B. EMMERSON.

*** Several other correspondents have written to the same effect.—ED. L.

MYOTOMA CONGENITA!

To the Editors of THE LANCET.

SIRS,—In THE LANCET of April 7th I am credited with being about to show, and in that of the 14th with having actually shown, something at the Medical Society of London under the above heading. I have heard of a myoma and of many other things all beginning with an "m." But what on earth is a "Myotoma Congenita"? Does it talk, or walk, or fly, or spin, or can it only crawl about? Does it emanate from the fertile brain of your printer's boy? If so, why, being obviously a neuter noun substantive, does he tack on to it the feminine attribute congenita? How did so ghastly a false quantity escape his cultivated observation? Has he not enjoyed the advantages of a School Board education? Have not you and I paid 1s. 3d. in the £ for him? Don't you keep a plagosus Orbilius on the premises to make his ears, or his "myotoma," if he likes to call it so, tingle, when he does such things? "Myotonia Congenita" is a shocking mongrel. I am not responsible for the term, but I must protest against having "*Myotoma* Congenita" fathered on me. Are not printer's boys called devils? With your usual courtesy please make the necessary correction and oblige,

Yours faithfully,

LEONARD GUTHRIE.

Upper Berkeley-street, W., April 14th, 1900.

*** The substitution of an "m" for "ni" escaped our eye. It did not escape the eye of the proof-reader who looked out the term in a well-known medical dictionary, only to find a mistake there.—ED. L.

"MURAL ADVERTISING AND THE LONDON COUNTY COUNCIL."

MR. RICHARDSON EVANS, the Honorary Secretary of the National Society for Checking the Abuses of Public Advertising, has written an excellent letter to the *Times* with this title. While congratulating the London County Council upon its recent by-law vetoing in places where danger to traffic might be caused by them all forms of light which alter suddenly either in intensity, colour, or direction, Mr. Evans asks, as the *Times* and THE LANCET have also asked, why physical risks should alone be considered? Flash lights are dangerous to traffic and so entail physical risks, but this is only one side of their evils. They are hideous things, and ugly, noisy, hideous things, constantly vexing our eyes and our ears, constitute a very real peril to the community, a peril as real and as undeniable as an accident in a hansom cab. "It is sufficient to remark," says Mr. Evans, in calling attention to the harm that may be done by perpetual shocks to the special senses, "that while the council has legal power to frame by-laws for securing the safety of traffic it would have to obtain statutory authority to make regulations out of deference to what are called 'æsthetic' considerations. For that advance in courageous commonsense the 'physical danger' by-law supplies an excellent basis. It is the English tradition to effect substantial reforms under cover of legal fictions. When the London County Council saved the metropolis and set an example to the world by getting an Act enabling them to put a stop once for all to the newly invented and rapidly extending institution of sky signs their real reason was regard for the appearance of the metropolis. Yet they could not nerve themselves to acknowledge that the things were intolerable because unsightly. They must needs make believe that the structures were perilous to life and limb. Others corporations are less timid. Edinburgh last session applied for and obtained extensive powers for the control of advertising devices of all sorts, and the Dublin corporation, I rejoice to say, has celebrated the Queen's visit by resolving unanimously to arm itself with a similar weapon for self-defence. London must, for very shame's sake, move soon. Those who wish to see interest and propriety restored to the aspect of our thoroughfares can hasten the day by making their desires known at the next election of councillors." We trust that the electors of the metropolis will take Mr. Evans's advice and insist that their representatives upon the London County Council shall pay proper attention to such matters as hideous advertisements and unnecessary street noises. It has been the custom to treat those who protest against these abuses as over-sensitive persons whose fads cannot be humoured. It should be made clear to the London County Council that it is not only dyspeptic journalists and overstrung musicians who run risks under perpetual irritation of their nerves. On the contrary, the whole community runs these risks, and the London County Council should put an end to them.

EARLY CLOSING.

THE report of the Early Closing Association has just been issued. It gives the names of 80 metropolitan districts in which the daily work of canvassing shopkeepers and effecting early closing improvements has been carried on. During the year 364 district reports have been presented and considered at the board meetings, and one thing becomes very clear upon reading the report. The opposition to the association and its reforms of a single individual may influence a district and prevent the earlier closing which would otherwise be effected. Permanent improvements have been effected in 392 metropolitan shops. The work of the association is active and well done, and deserves the support of medical men.

"A NEW USE FOR DOGS."

WE have received from press-cutting agencies a letter with this title, signed "Maurice L. Johnson." The following passage occurs in it:—

> According to THE LANCET of February 19th Dr. Fremont, of Vichy, gives his dyspeptic patients large doses of the gastric juice of dogs. "This treatment is," we are told, "unhappily, not within the reach of all purses, for in order to provide the large doses necessary a regular pack of small dogs with gastric fistulæ (holes in their stomachs) has to be kept so as to provide the necessary amount of gastric juice."

THE LANCET was not published on Feb. 19th, and the passage in question, the date of the publication of which Mr. Maurice L. Johnson misquotes, was not "according to THE LANCET," but occurred in a communication from a special correspondent to us. We should not have taken the trouble to correct Mr. Maurice L. Johnson's inaccuracies if his name had not been familiar to us as an old offender, and if he did not apparently send his communications out to newspapers. Only last year he apologised to us for grossly misquoting us in a letter which he distributed broadcast to the press, and although the inaccuracies occurred then, as they do now, in more than one paper, he calmly attributed them to "a compositor's error."

Stand Sure.—We regret to be unable to answer our correspondent's question. The fair arrangement depends upon circumstances which are not furnished in his letter. The difference in the wholesale and retail price of a commodity depends, among other things, upon the fact that the retailer has the responsibility of storage and the cost of establishment as well as special skill. We do not gather from "Stand Sure's" letter who stores the drugs and who makes up the prescriptions. If the whole of the pharmaceutical work and its responsibilities falls upon A it matters so little whether his partner or the patients pay him that there need be little difference in price.

Nottingham.—We agree that the questions are delicate, but none the less they should be put to a medical man. The medical profession is used to dealing with delicate questions. The points upon which information is required are outside the scope of family practice, and the family practitioner would certainly admit this and be happy to suggest to our correspondent where he could get the best advice, choosing for him, if he wished, a consultant living at a distance. We regret that we cannot break our invariable rules not to give medical opinions and not to recommend practitioners by name.

Ammonia.—Neale's Digest contains all the information sought, and the volumes of THE LANCET and the *British Medical Journal* to which reference is made are surely accessible to our correspondent.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received: *Derbyshire Times, Morning Herald, Leeds Mercury, Sun (London), Times of India, Pioneer Mail, Scotsman, Architect, Builder, Citizen, Liverpool Daily Post, Birmingham Daily Post, Bristol Mercury, Burton Mail, Yorkshire Post, Wiltshire Advertiser, Leicester Daily Post, Lancashire Daily Post, Hereford Times, Midland Free Press, Dundee Advertiser, East Anglian Daily*

Times, Surrey Mirror, South Wales Daily News, Yarmouth Independent, East Daily Press, Manchester Guardian, West Hartlepool Guardian, Glasgow Herald, Folkestone Herald, Westminster Gazette, Bexhill Chronicle, Gloucester Journal, Cheltenham Examiner, Newcastle Daily Chronicle, Mining Journal, Sanitary Record, Brighton Gazette, Oswestry Advertiser, Kenilworth Advertiser, Nuneaton Observer, Health, Wilts Advertiser, Ipswich Journal, Dudley Herald, Kettering Guardian, City Press, Local Government Chronicle, Surrey Advertiser, Portadown News, Guy's Hospital Gazette, Pall Mall Gazette, Local Government Journal, Hertfordshire Mercury, Reading Mercury, Stamford Guardian, Sporting Chronicle, Hastings and St. Leonards Observer, Australian Trading World, Weekly Free Press and Aberdeen Herald, Sheffield Daily Telegraph, &c., &c.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, April 19th, 1900.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. in Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
April 13	29·75	W.	...	101	60	48	51	53	Cloudy
" 14	30·04	S.W.	0·04	101	65	45	47	50	Overcast
" 15	29·97	S.W.	...	94	57	49	49	54	Cloudy
" 16	29·8	W.	...	104	58	42	45	50	Cloudy
" 17	30·24	W.	0·06	71	57	41	45	47	Overcast
" 18	30·36	N.	0·04	95	63	41	47	50	Fine
" 19	30·54	S.W.	...	85	64	49	49	55	Hazy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (23rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (24th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat 2 P.M. and 6 P.M.), Royal Ear (3 P.M.).

WEDNESDAY (25th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.)

THURSDAY (26th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.) University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.).

FRIDAY (27th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.).

SATURDAY (28th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (23rd).—MEDICAL SOCIETY OF LONDON.—8.30 P.M. Mr. T Bryant: The Relative Frequency of Cysts of the Breast, their Diagnosis and Treatment.—Dr. C. Pope: 23 Years' Death Certificates in General Practice.

TUESDAY (24th).—ROYAL STATISTICAL SOCIETY (9, Adelphi-terrace, Strand, W.C.).—5 P.M. Paper:—Mr. H. B. Jones: On the Consumption of Alcoholic Beverages.

WEDNESDAY (25th).—HUNTERIAN SOCIETY.—8.30 P.M. The President: Traps and Pitfalls in Special and General Practice. After the address there will be a Discussion in which Fellows and their visitors are invited to join.

THURSDAY (26th).—DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND (20, Hanover-square, W.).—4.30 P.M. Informal Exhibition of Cases.—5 P.M. Ordinary Meeting.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Dr. A. S. Myrtle (Harrogate): Personal Experiences of Gout. Paper:—Dr. L. Gordon (Forest Hill): The Climate and Hospitals of Rhodesia (illustrated by lantern slides).

FRIDAY (27th).—CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Clinical Evening. The following cases will be shown:—Dr. N. Dalton: A Case of Aortic Regurgitant Murmur heard in the Pulmonary Area.—Dr. Habershon: A Case of Tuberculous Gland in the Anterior Mediastinum (with radiograph).—Dr. P. Kidd: A Case of Lymphatic Leucocythæmia.—Dr. H. Campbell: A Case allied to Recklinghausen's Disease.—Mr. C. Symonds: A Patient after Complete Removal of the Clavicle.—Sir Hugh Beevor: A Case of Diffuse Lipomata of the Limbs.—Dr. N. Dalton: A Boy with (apparently) Tuberculous Mediastinal Glands Pressing on the Right Lung.—Mr. Lunn: A Case of Osseous Tumour of the Arm (with a skiagraph).—Dr. T. D. Savill: A Case of Macular Leprosy improving under Chaulmoogra Oil. Patients will be in attendance at 8 P.M.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (23rd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. M. Morris: Consultation. (Skin.)

TUESDAY (24th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Sir W. H. Broadbent: Consultation. (Medical.)

WEDNESDAY (25th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—5 P.M. Prof. J. Dreschfeld: Clinical Lecture.

THURSDAY (26th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Hutchinson: Consultation. (Surgical.)

FRIDAY (27th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. D. Grant: Consultation. (Ear and Throat.)

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE, OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are:—

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Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance.

Communications, Letters, &c., have been received from—

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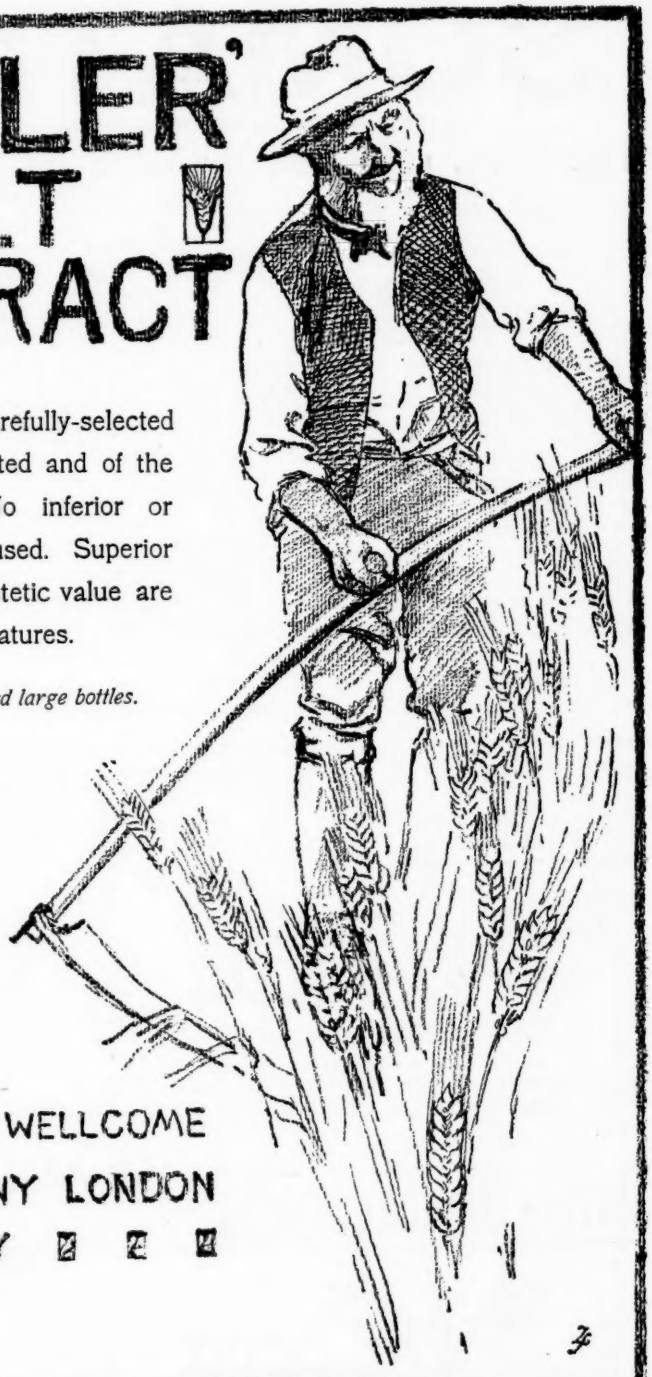

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